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UNIVERSITY OF VIRGINIA - CHARLOTTESVILLE



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APPLICATION OF REMOTE SENSING METHODS TO
COASTAL ZONE LAND USE AND MARINE
RESOURCE MANAGEMENT, APPENDICES (Virginia
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DEPARTMENT OF
ENVIRONMENTAL SCIENCES

UNITED STATES
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GEOLOGICAL SURVEY

Interagency Report USGS - 243

ENVIRONMENTAL APPLICATION OF REMOTE
SENSING METHODS TO COASTAL ZONE LAND
USE AND MARINE RESOURCE MANAGEMENT:
APPENDICES A to E

September 1972

PRICES SUBJECT TO CHANGE

Prepared by the U. S. Geological Survey (USGS) for the
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Work performed by the University of Virginia for the
USGS Geographic Applications Program under USGS Contract No.
14-08-001-12540.

APPENDIX A

RICHEL CLIMATOLOGICAL
DATA AND SOURCES

APPENDIX A

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SUMMARY CLIMATE MAPS

The climatological data is required for an area larger than RICHEL. Therefore, information from peripheral areas is included. The set of maps that immediately follow this page aptly relate the weather averages and extremes of the coastal and lowlands in southeastern Virginia to the remainder of the state. These maps were extracted from "A Handbook of Agronomy" prepared by Cooperative Extension Service, Virginia Polytechnic Institute, Blacksburg, Virginia 24601, Bulletin 97, revised June, 1966. To make verification easier, the page number where this data appeared in the original publication precedes the name of the source.

The State Climatologist is located at Virginia Polytechnic Institute in Blacksburg, Virginia. As an employee of NOAA, he is responsible for compilation of the Virginia Climatological Summary which is monthly.

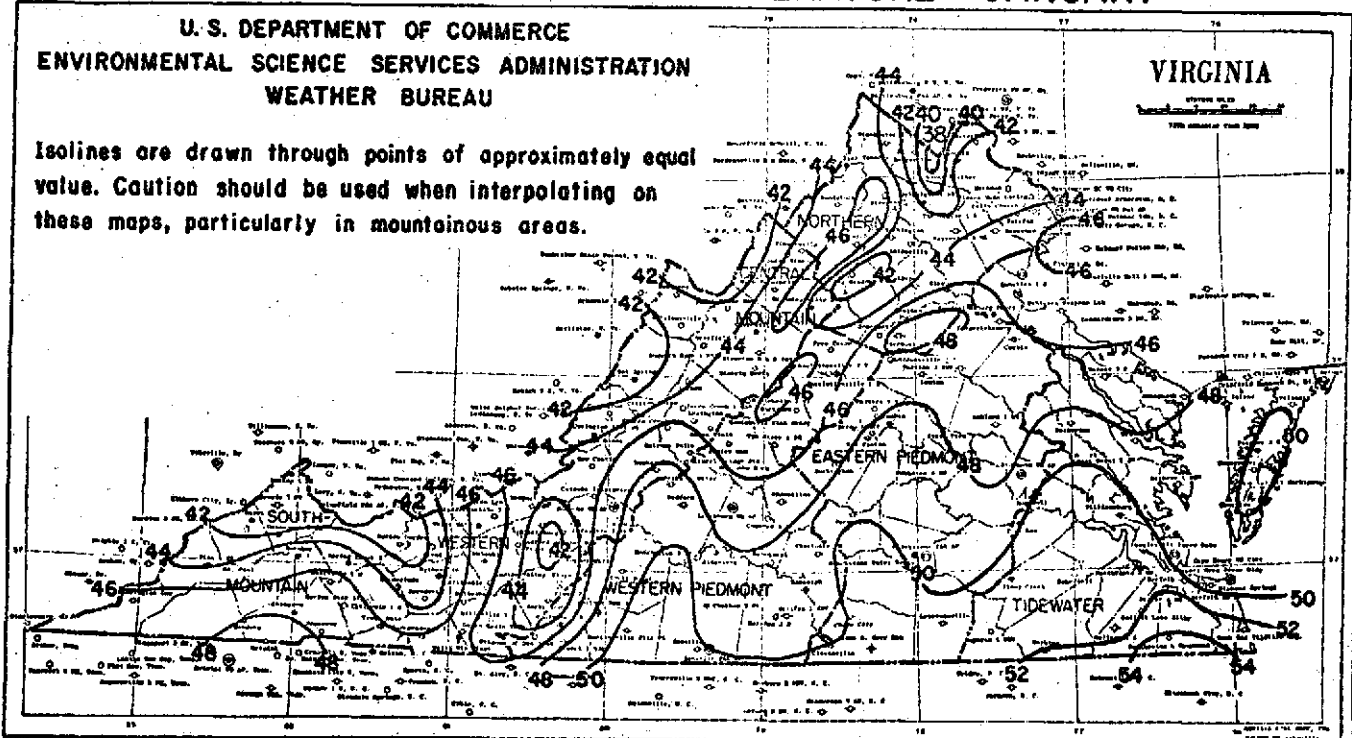
Daily weather records from first order weather stations, Richmond & Norfolk, are available as Local Climatological Data issued monthly from Ashville, North Carolina.

Daily weather records from Langley AFB, NAS Norfolk, and NAS Oceana are available at those stations.

MEAN DAILY MAXIMUM TEMPERATURE - JANUARY

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
WEATHER BUREAU

Isolines are drawn through points of approximately equal value. Caution should be used when interpolating on these maps, particularly in mountainous areas.



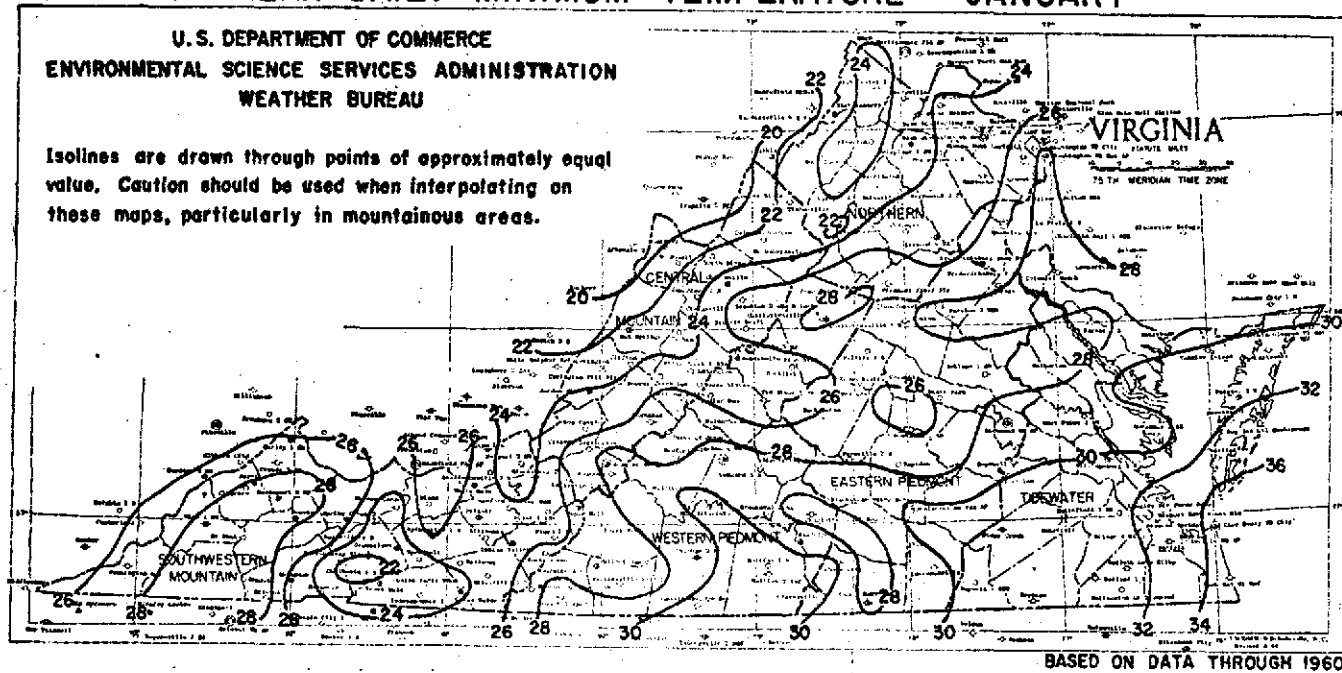
BASED ON DATA THROUGH 1960

A-3

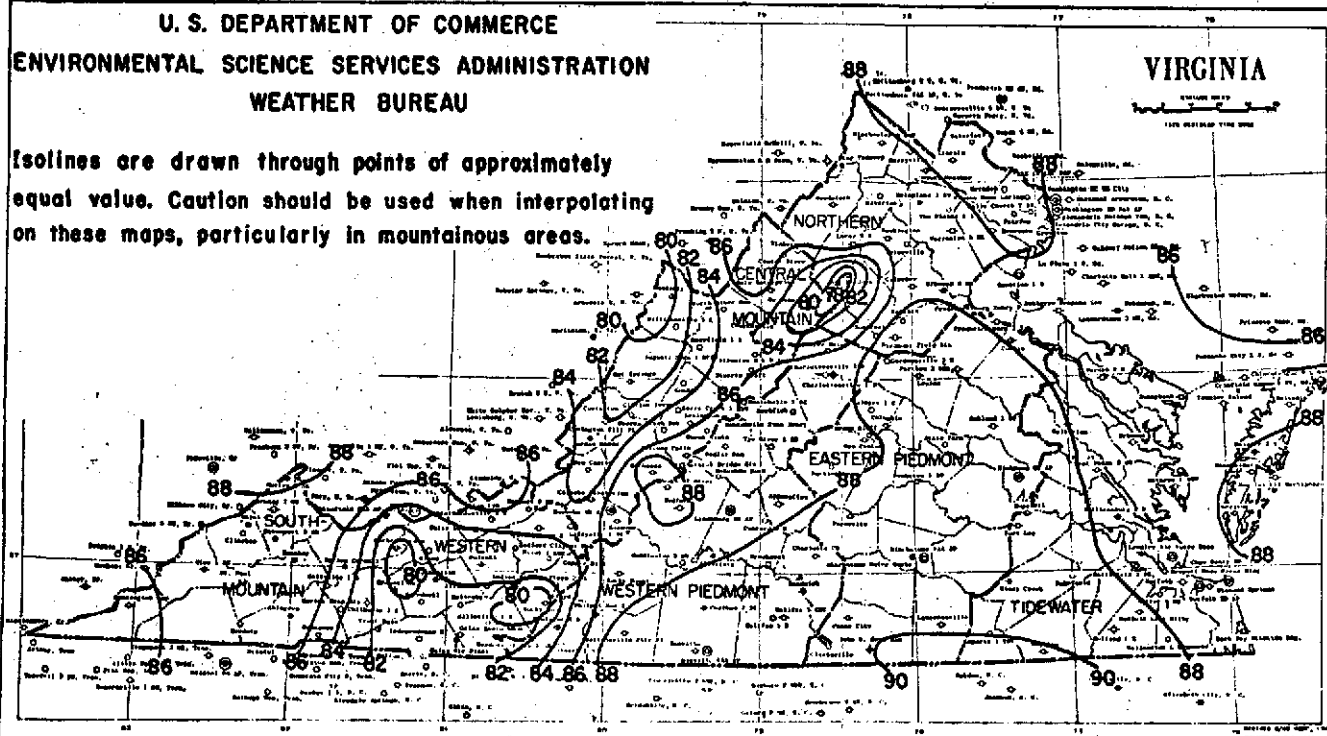
MEAN DAILY MINIMUM TEMPERATURE JANUARY

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
WEATHER BUREAU

Isolines are drawn through points of approximately equal value. Caution should be used when interpolating on these maps, particularly in mountainous areas.



MEAN DAILY MAXIMUM TEMPERATURE JULY

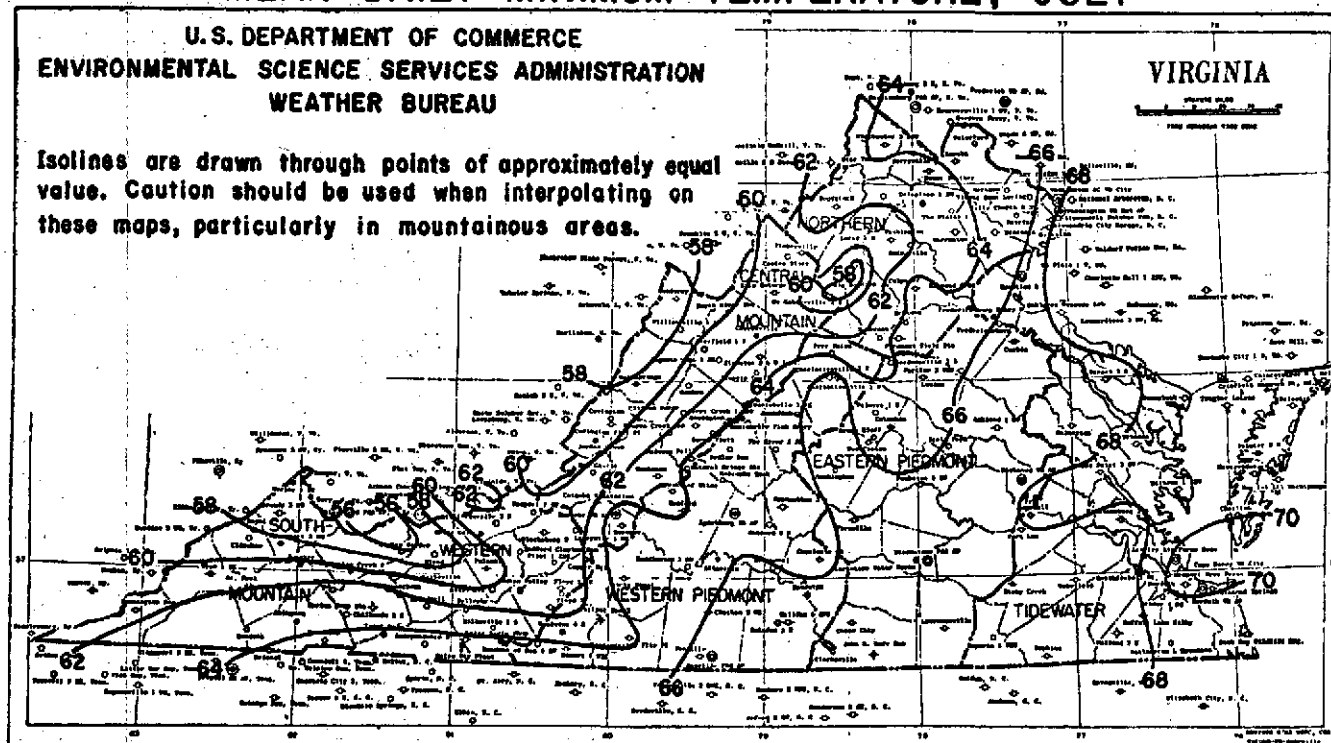


BASED ON DATA THROUGH 1960

MEAN DAILY MINIMUM TEMPERATURE, JULY

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
WEATHER BUREAU

Isolines are drawn through points of approximately equal value. Caution should be used when interpolating on these maps, particularly in mountainous areas.

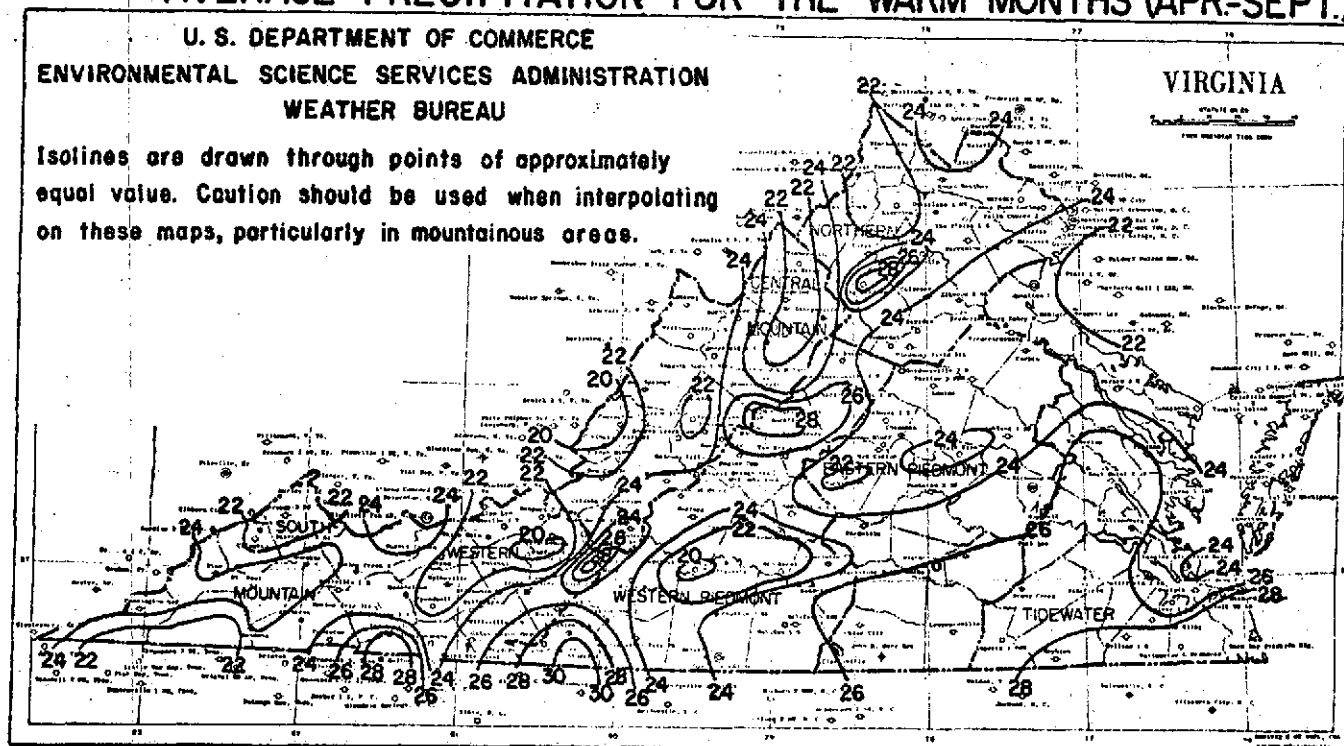


BASED ON DATA THROUGH 1960

AVERAGE PRECIPITATION FOR THE WARM MONTHS (APR-SEPT.)

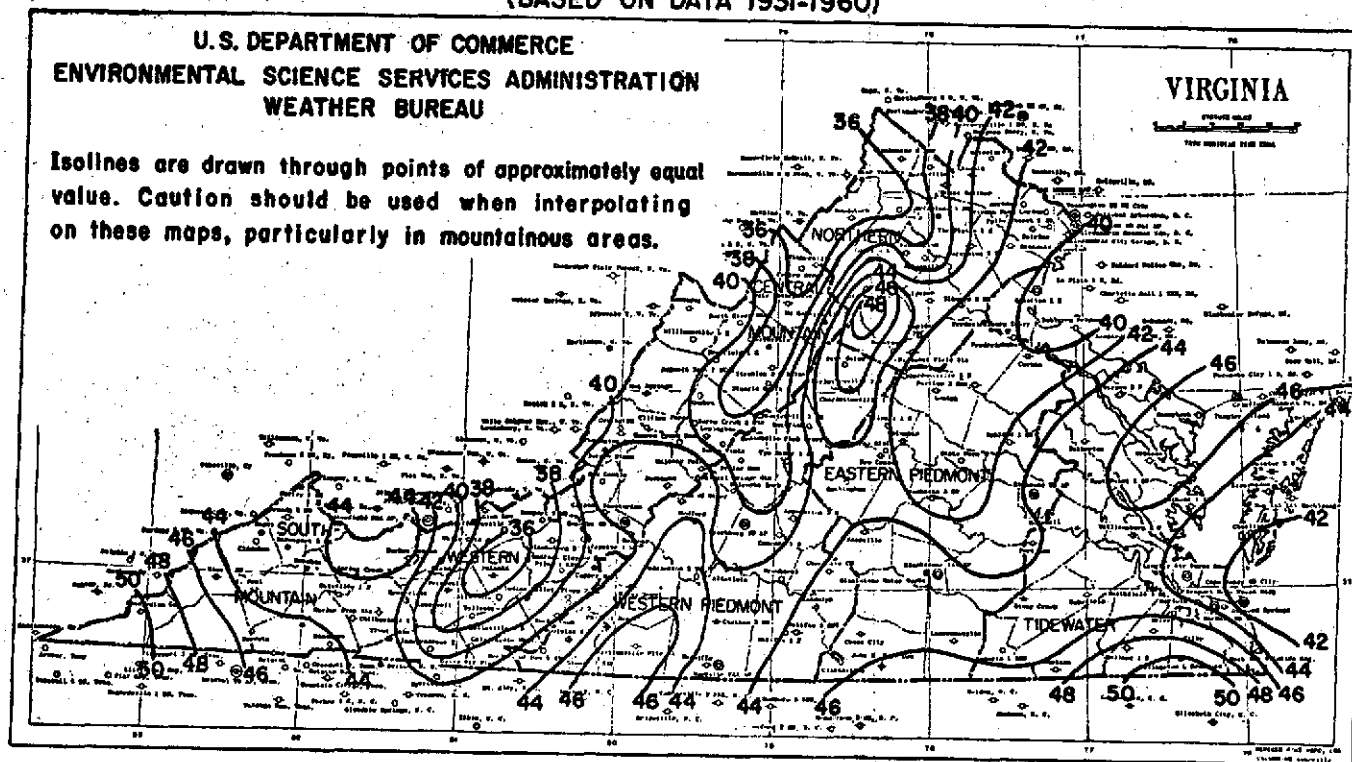
U. S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
WEATHER BUREAU

Isolines are drawn through points of approximately equal value. Caution should be used when interpolating on these maps, particularly in mountainous areas.



BASED ON DATA THROUGH 1960

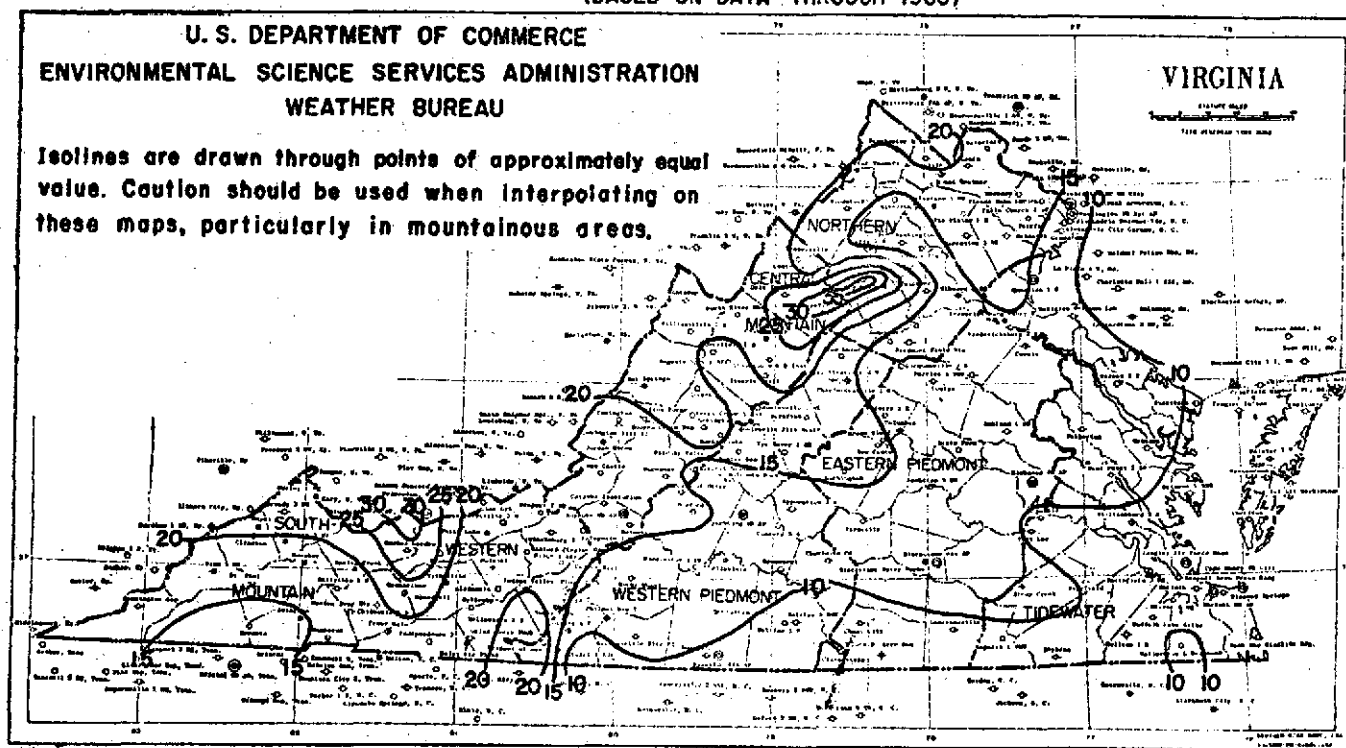
NORMAL ANNUAL PRECIPITATION, INCHES (BASED ON DATA 1931-1960)



AVERAGE ANNUAL SNOWFALL, INCHES (BASED ON DATA THROUGH 1960)

**U. S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
WEATHER BUREAU**

Isolines are drawn through points of approximately equal value. Caution should be used when interpolating on these maps, particularly in mountainous areas.

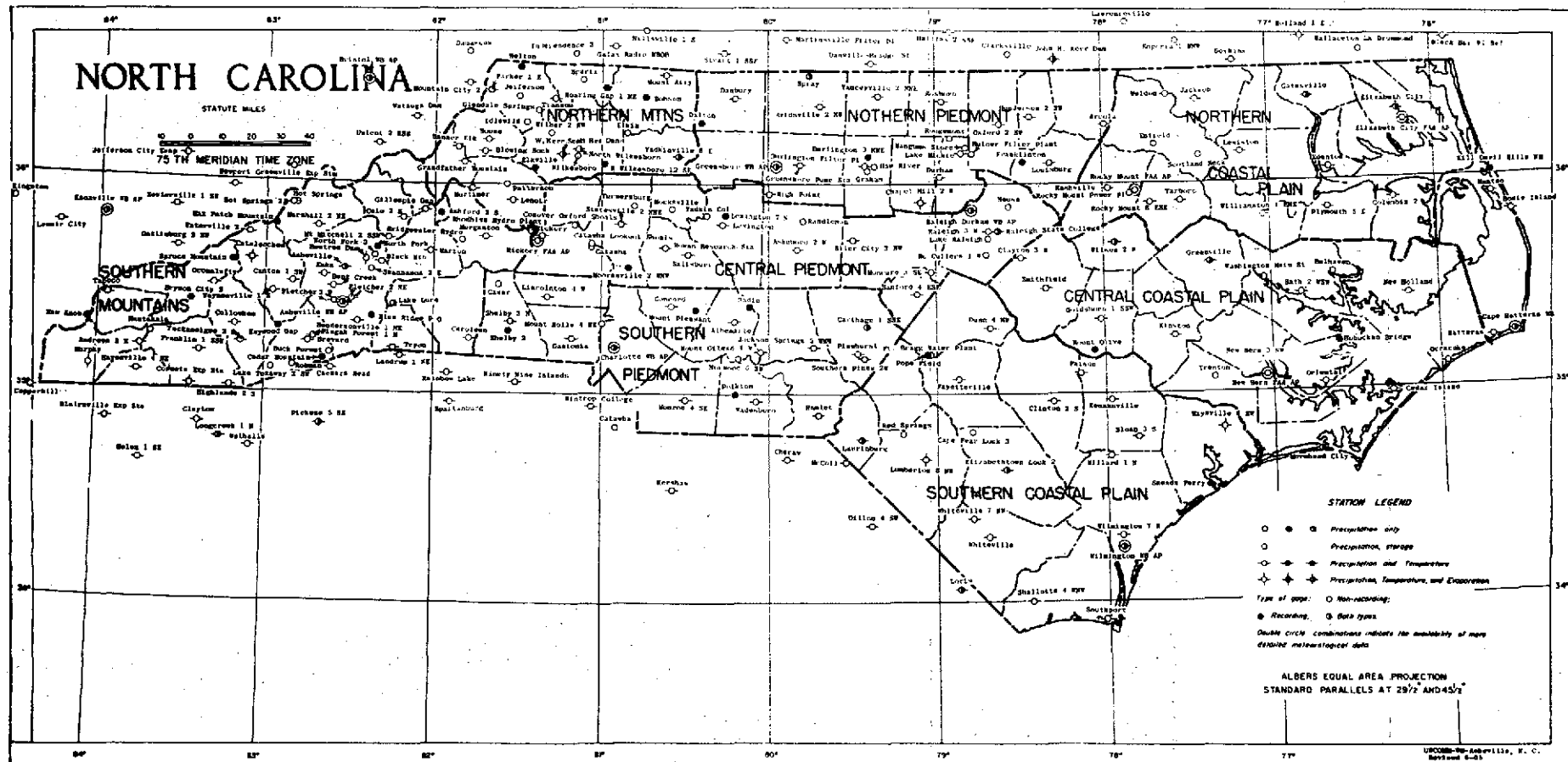


CLIMATOLOGICAL INFORMATION

The weather data collecting network in Virginia and North Carolina are displayed by the base maps on the following pages. It should be noted, however, that equipment indicated by the symbols may not be precisely correct as the stations are often updated or altered during the course of a year. For the most up-to-date information, reference should be made to the "Climatological Data, Monthly Summarized Station and Divisional Data", which is issued separately for each state. For availability of this information see sources at the end of this section.

<u>CODE</u>	<u>TYPE OF STATION</u>
10	WSO - Weather Service Office
20	NC - National Center
30	FAA - Federal Aviation Administration
40	WSFO - Weather Service Forecast Office
50	RWC - Regional Weather Center
60	RFC - River Forecast Center
70	WSMO - Weather Service Meteorological Observatory
80	SC - Weather Service Office for State Climatology
90	CUA - Cooperative Upper-air Unit
<hr/>	
01	AMOS - Automatic Meteorological Observing Station
02	SAWR - Supplementary Aviation Weather Reporting
03	A - Aviation Weather Reporting Station
04	FSS - Flight Service Station (FAA)
05	TWR - Control Tower
06	CST - Combined Flight Service Station and Tower (FAA)
07	S - Synoptic Observations
08	SA - Combined Synoptic and Aviation Reporting
09	CG - Coast Guard

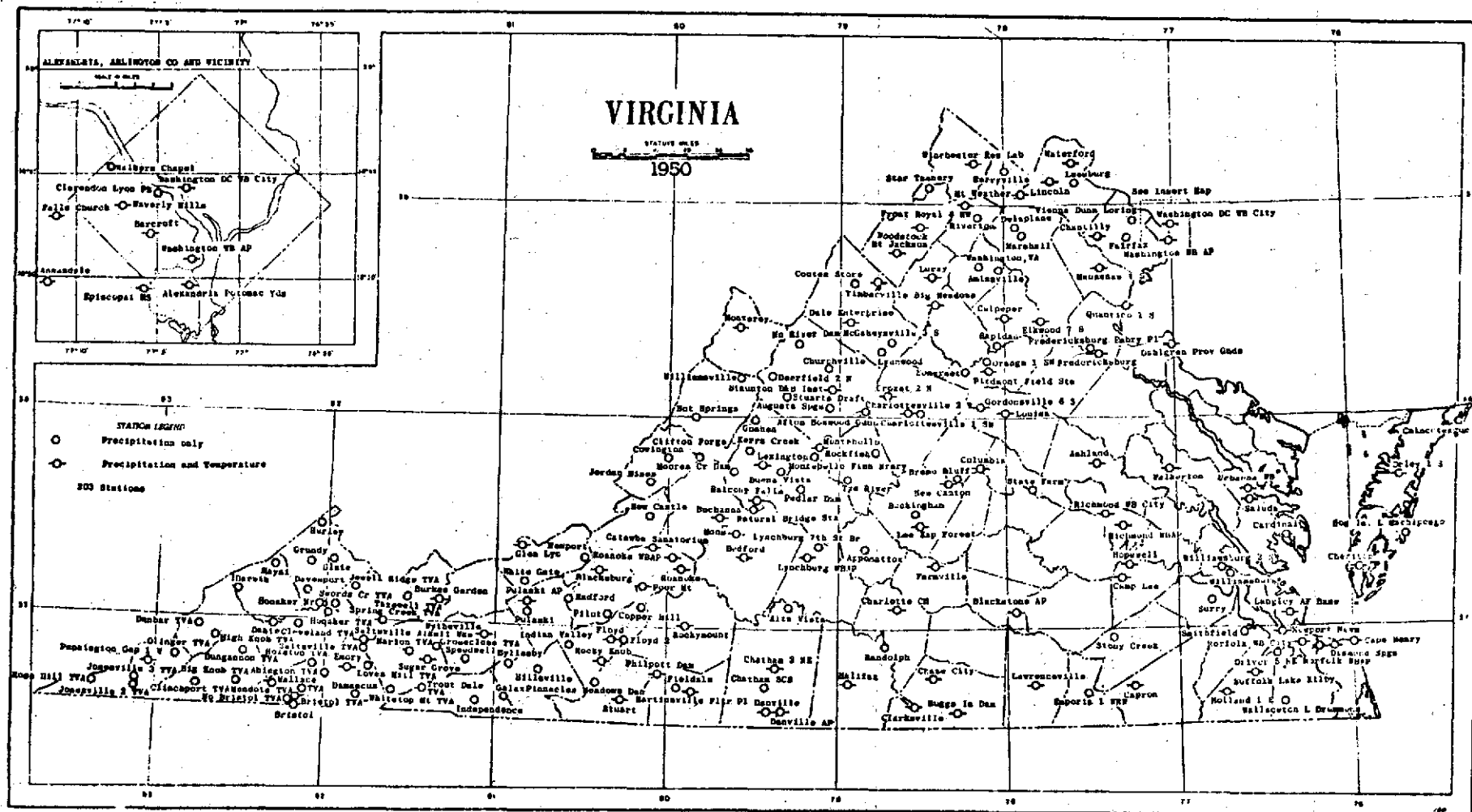
Source: State Climatologist NOAA, Curtis W. Crockett, Agronomy Dept.
Virginia Polytechnic Institute, Blacksburg, Virginia 24601,
(703) 552-2979



Decadal Census of Weather Stations, Virginia*

The following seven maps are a historical record of the location of weather stations in Virginia. The degree to which records from all stations are still available is not known since records from stations were not requested.

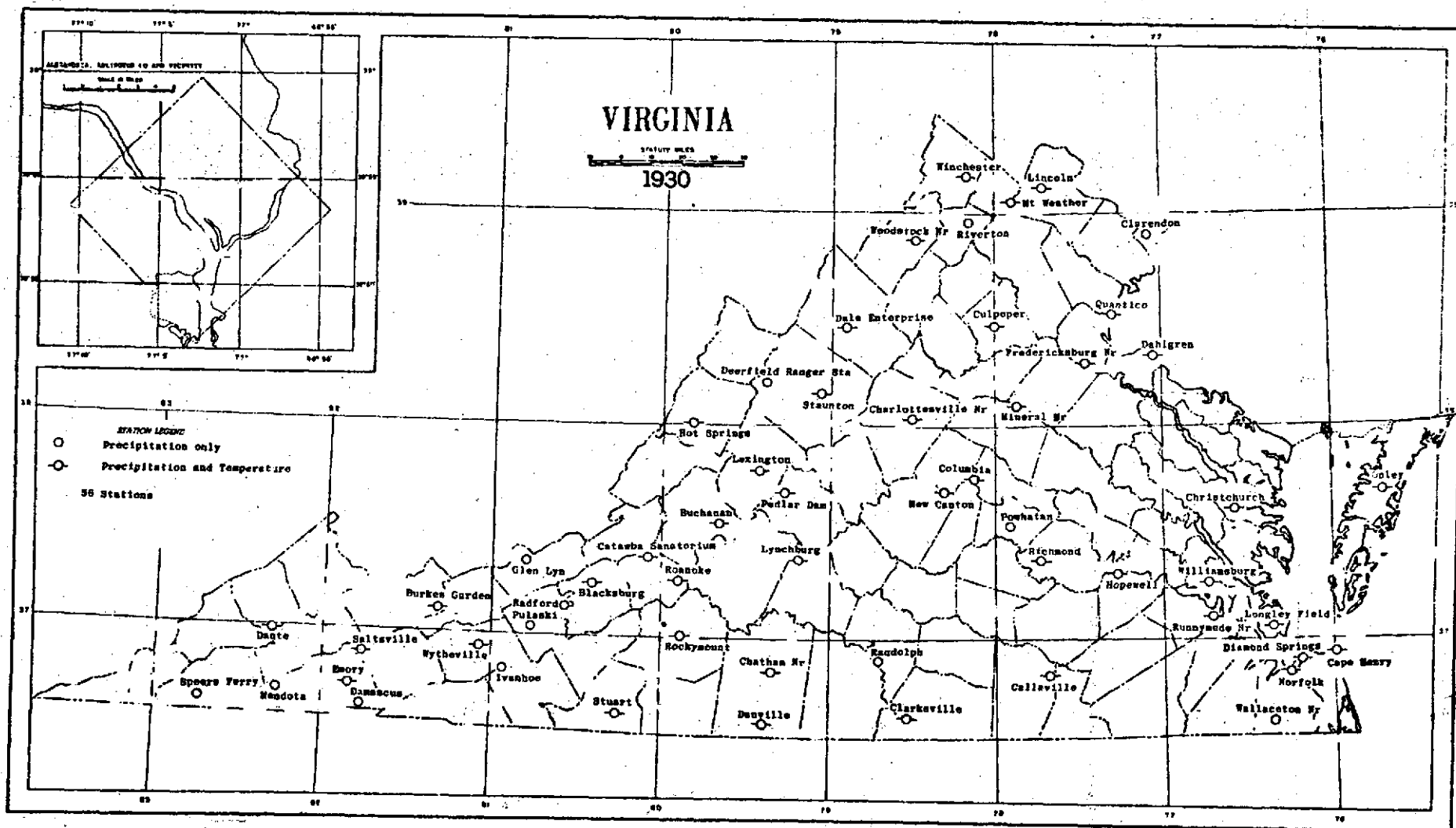
*Decadal Census of Weather Stations, Virginia, U.S. Weather Bureau, Washington, D. C., 1963.



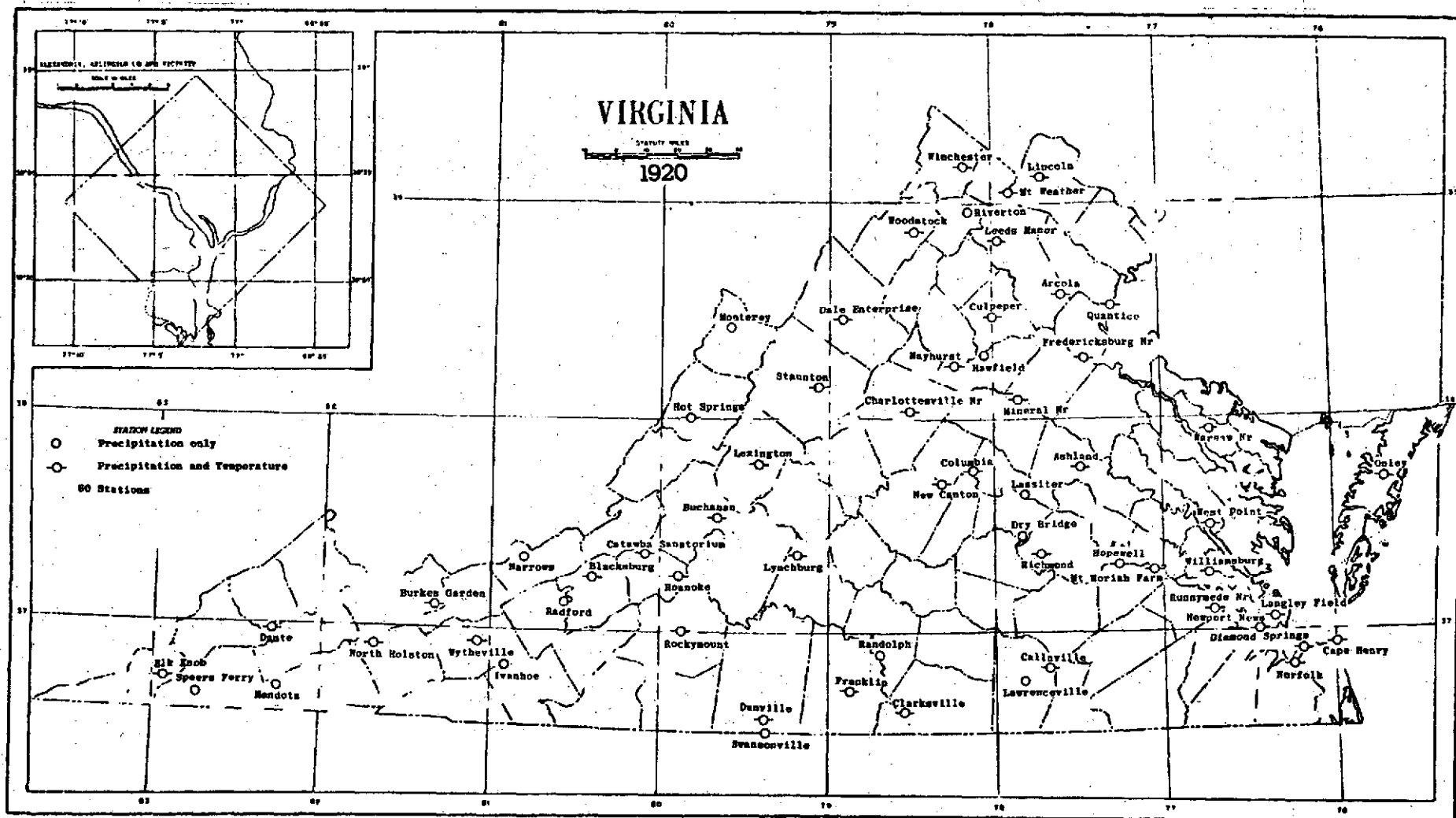
Decadal Census of Weather Stations, Virginia



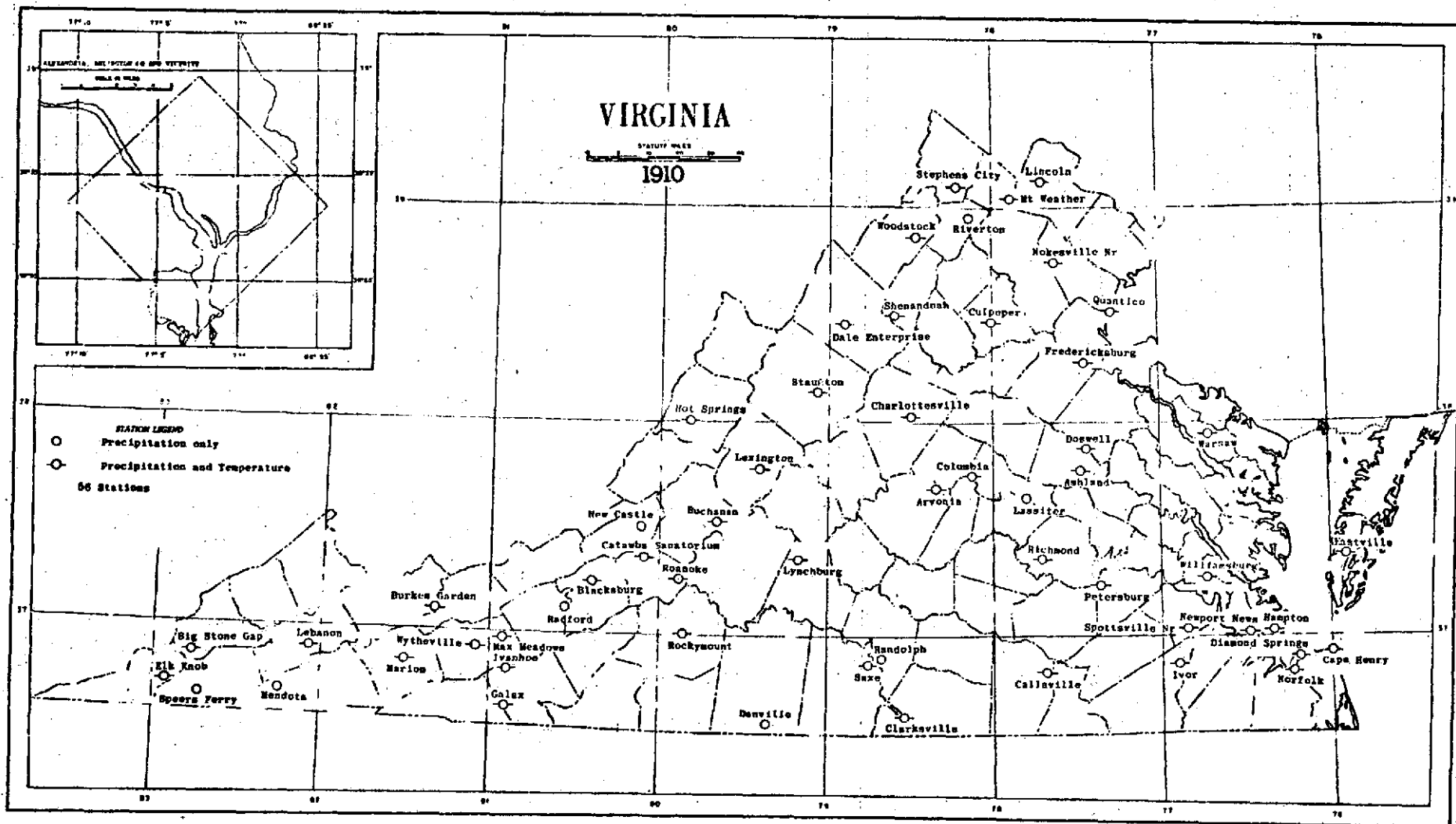
Decadal Census of Weather Stations, Virginia



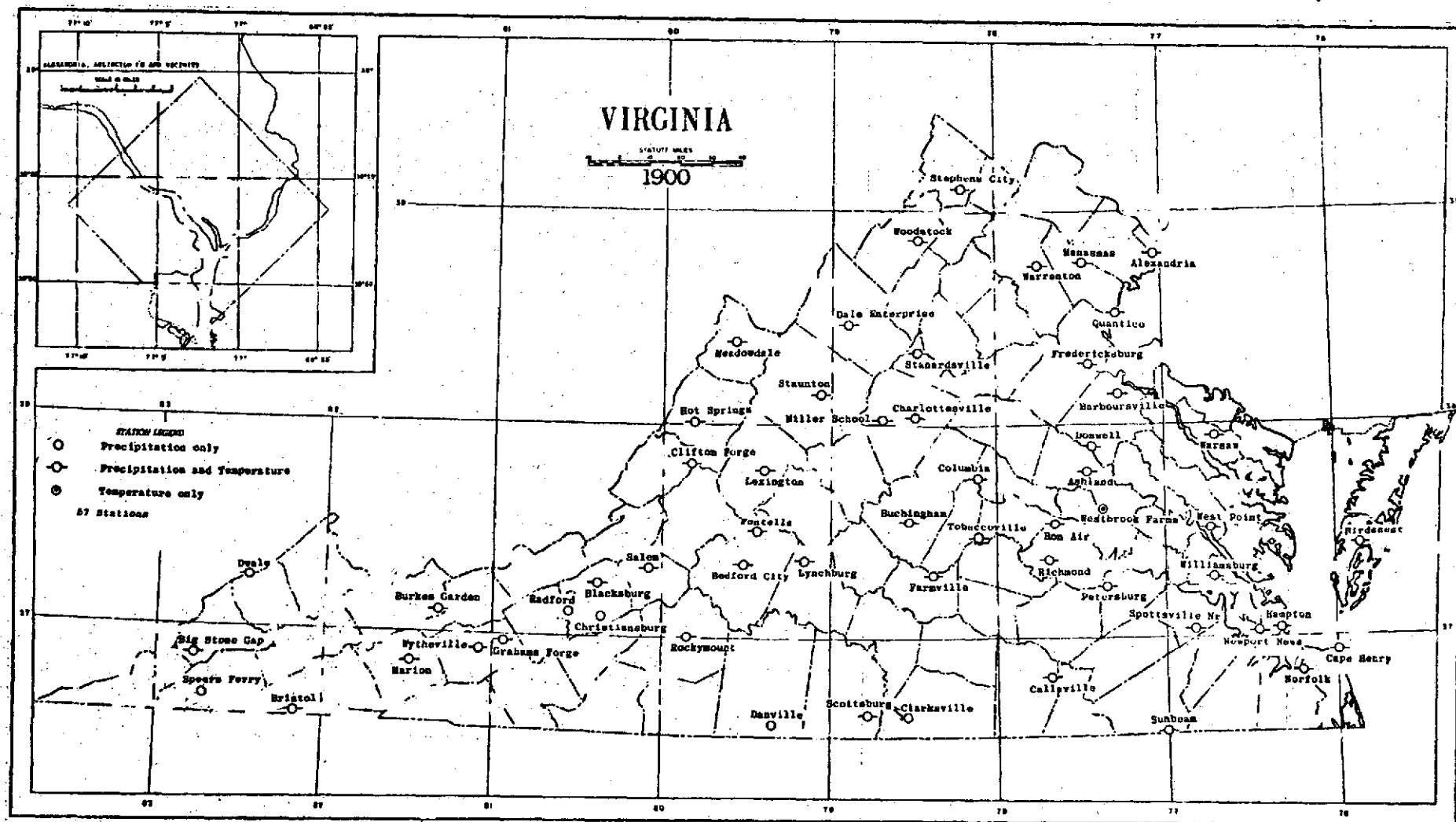
Decadal Census of Weather Stations, Virginia



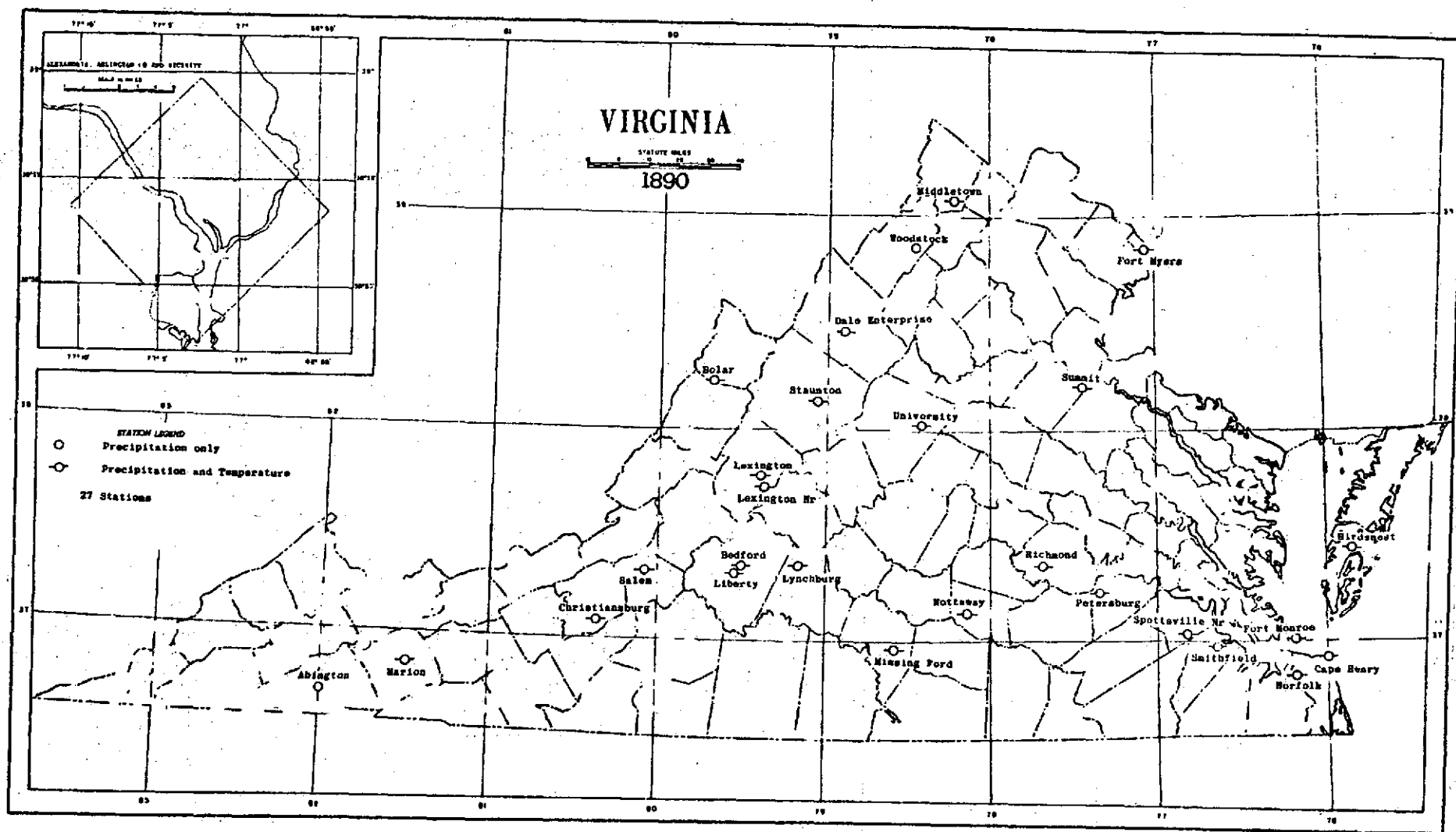
Decadal Census of Weather Stations, Virginia



Decadal Census of Weather Stations, Virginia



Decadal Census of Weather Stations, Virginia

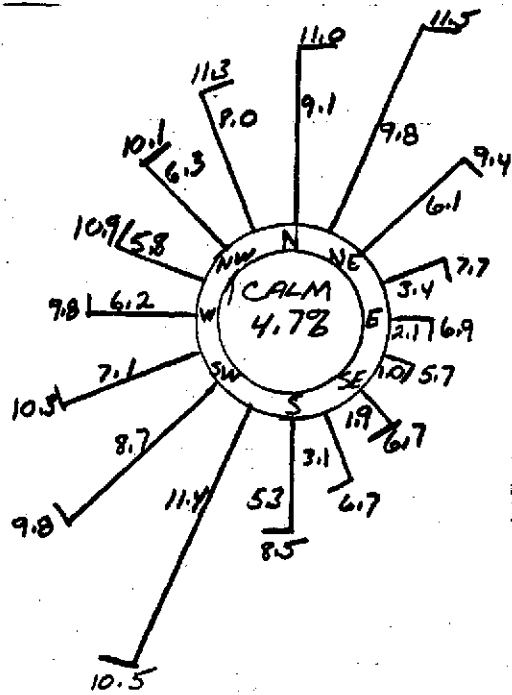


Decadal Census of Weather Stations, Virginia

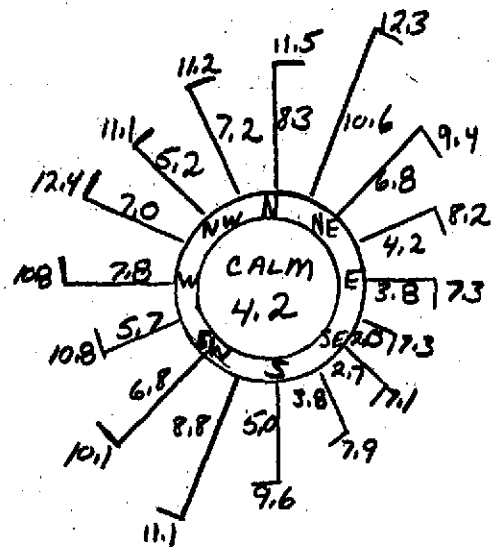
SUMMARY WIND ROSES BY MONTH

The following three pages present wind roses constructed by Fleet Weather Central, Norfolk, Virginia under the direction of L. J. Underwood. They were extracted from the 1971 monthly issues of Climatological Summary. The wind direction is identified by the compass headings found inside the larger circle. Percent calm is within the smaller circle and all other percent of wind occurrence is displayed both numerically beside each direction as well as graphically in the length of each arrow. The number at the outer extremity is the average wind speed in knots.

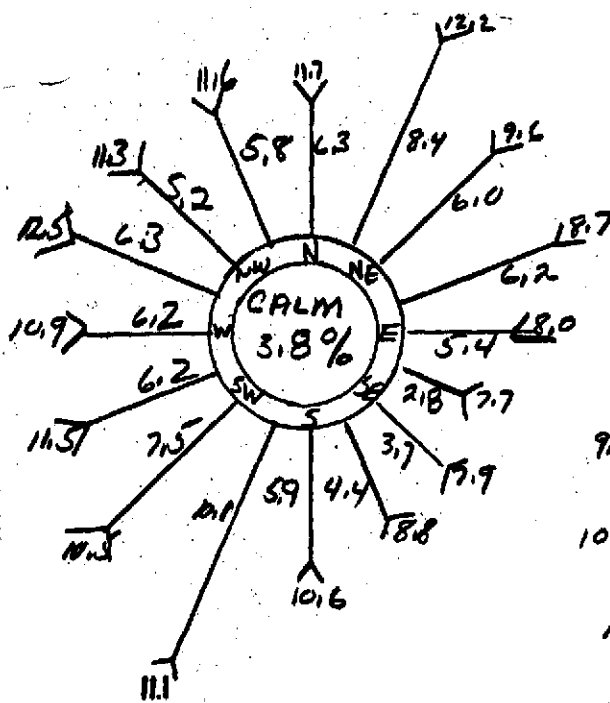
Source: Climatological Summary, Fleet Weather Central, Norfolk, Virginia, issued monthly by L. J. Underwood, Commanding Officer, Fleet Weather Central, Naval Air Station, Bldg. R-47, Norfolk, Virginia 23511.



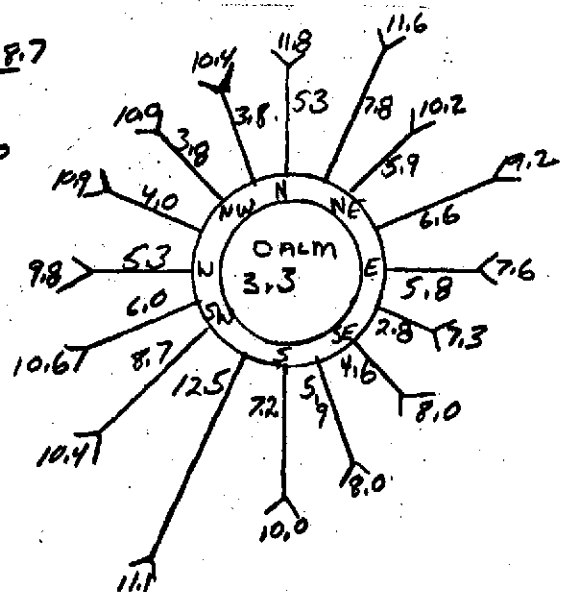
JANUARY



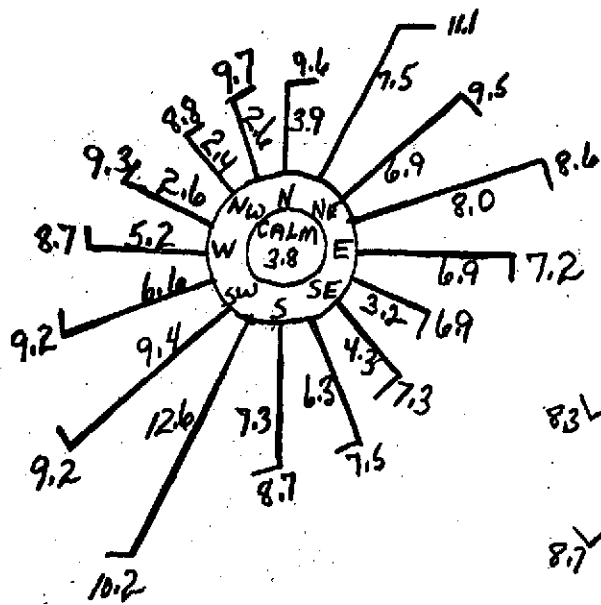
FEBRUARY

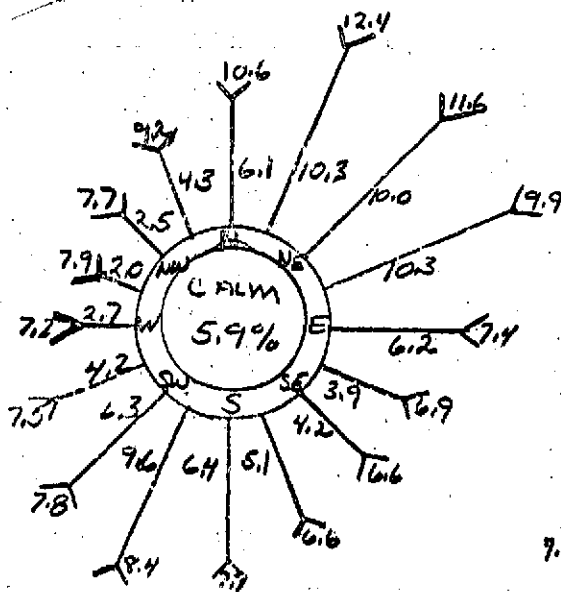


MARCH

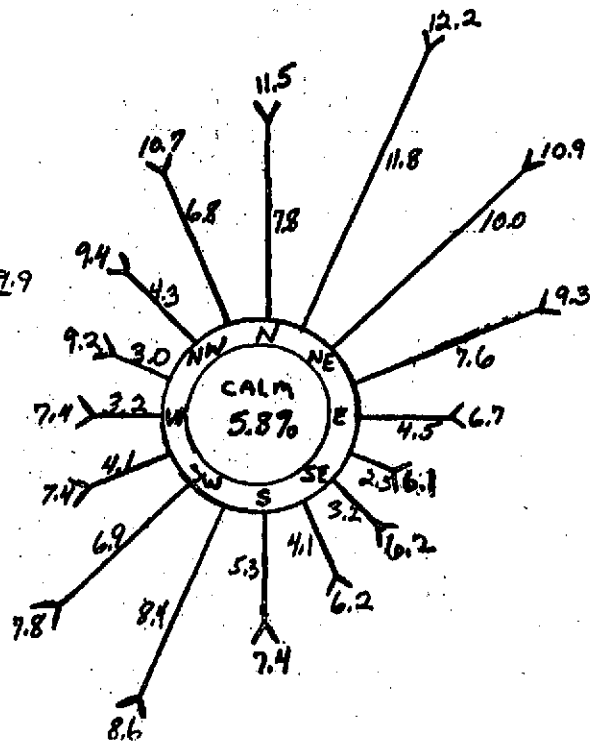


APRIL

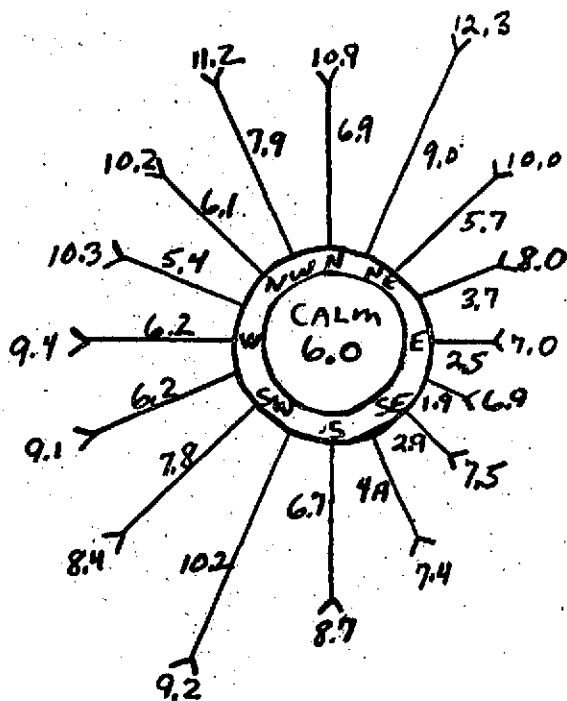




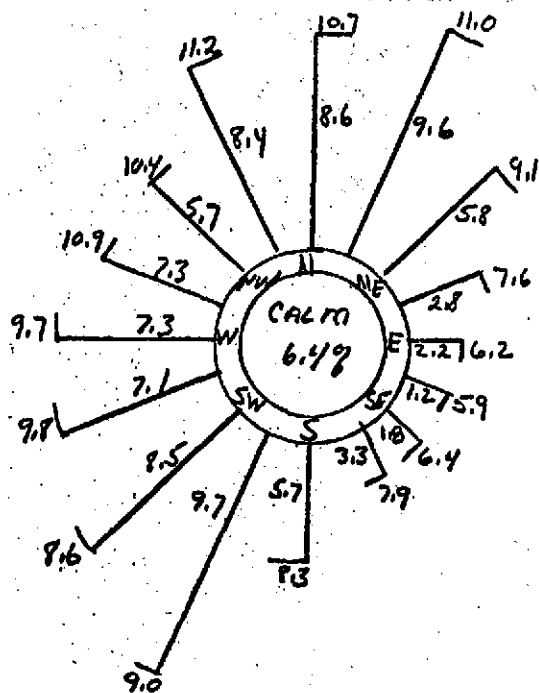
SEPTEMBER



OCTOBER



NOVEMBER

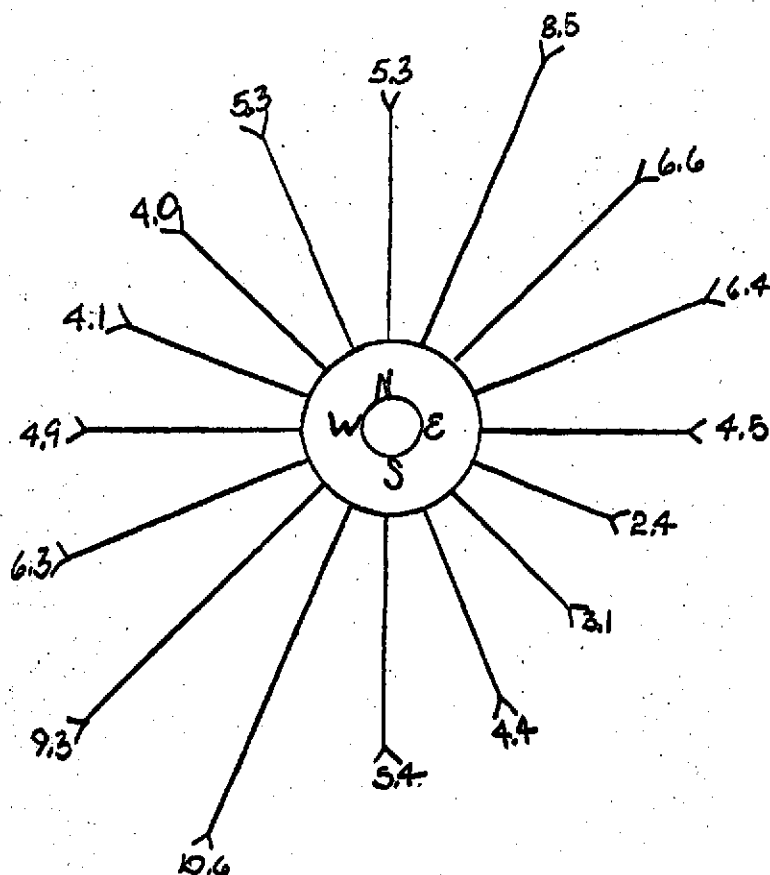


DECEMBER

NAVAL AIR STATION, NORFOLK, VIRGINIA

DIRECTION	% FREQUENCY OF WIND SPEEDS (KNOTS)					
	3-7	8-12	13-20	21-30	31-40	40+=
NORTH	1.6	2.0	1.6	.2		
NORTH-NORTHEAST	2.1	3.2	2.6	.5	.0	.0
NORTHEAST	2.1	2.7	1.6	.2	.0	
EAST-NORTHEAST	2.4	2.9	1.1	.1		
EAST	2.3	1.8	.4	.0		
EAST-SOUTHEAST	1.4	.8	.2	.0	.0	.0
SOUTHEAST	1.8	1.0	.3	.0	.0	.0
SOUTH-SOUTHEAST	2.4	1.4	.5	.0	.0	
SOUTH	2.3	2.1	.8	.1	.0	.0
SOUTH-SOUTHWEST	3.0	5.3	2.3	.1	.0	.0
SOUTHWEST	3.3	4.3	1.5	.1	.0	
WEST-SOUTHWEST	2.4	2.7	1.2	.1	.0	
WEST	2.0	2.0	.9	.1	.0	
WEST-NORTHWEST	1.1	1.6	1.2	.1	.0	
NORTHWEST	1.3	1.6	1.0	.1	.0	
NORTH-NORTHWEST	1.3	2.3	1.5	.1	.0	
CALM	9.1					

ANNUAL % FREQUENCY OF WIND DIRECTION



SOLAR RADIATION

These charts list a five year monthly average for stations surrounding the test site which itself contains no stations. The units are Langleys and are equivalent to one gram calorie per square centimeter. The monthly averages were averaged for each year at each station and included in the last column. This information was extracted from past volumes of Climatological Data, National Summary, produced by the Department of Commerce through various agency names but predominately Environmental Science and Service Administration and more recently National Oceanic and Atmospheric Administration.

SOLAR RADIATION*
Five Year Averages 1966-1970 (in Langleys**)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Sterling, Virginia	190	263	339	407	492	544	491	462	396	266	186	155	349
Cape Hatteras, North Carolina	213	294	406	486	520	550	515	473	428	339	263	207	391
Greensboro, North Carolina	251	275	397	422	488	516	471	430	383	290	226	177	360

* Taken from the Climatological Data, National Summary, Annual Summary available once yearly from Ashville, North Carolina.

**One Langley equals one gram calorie per square centimeter.

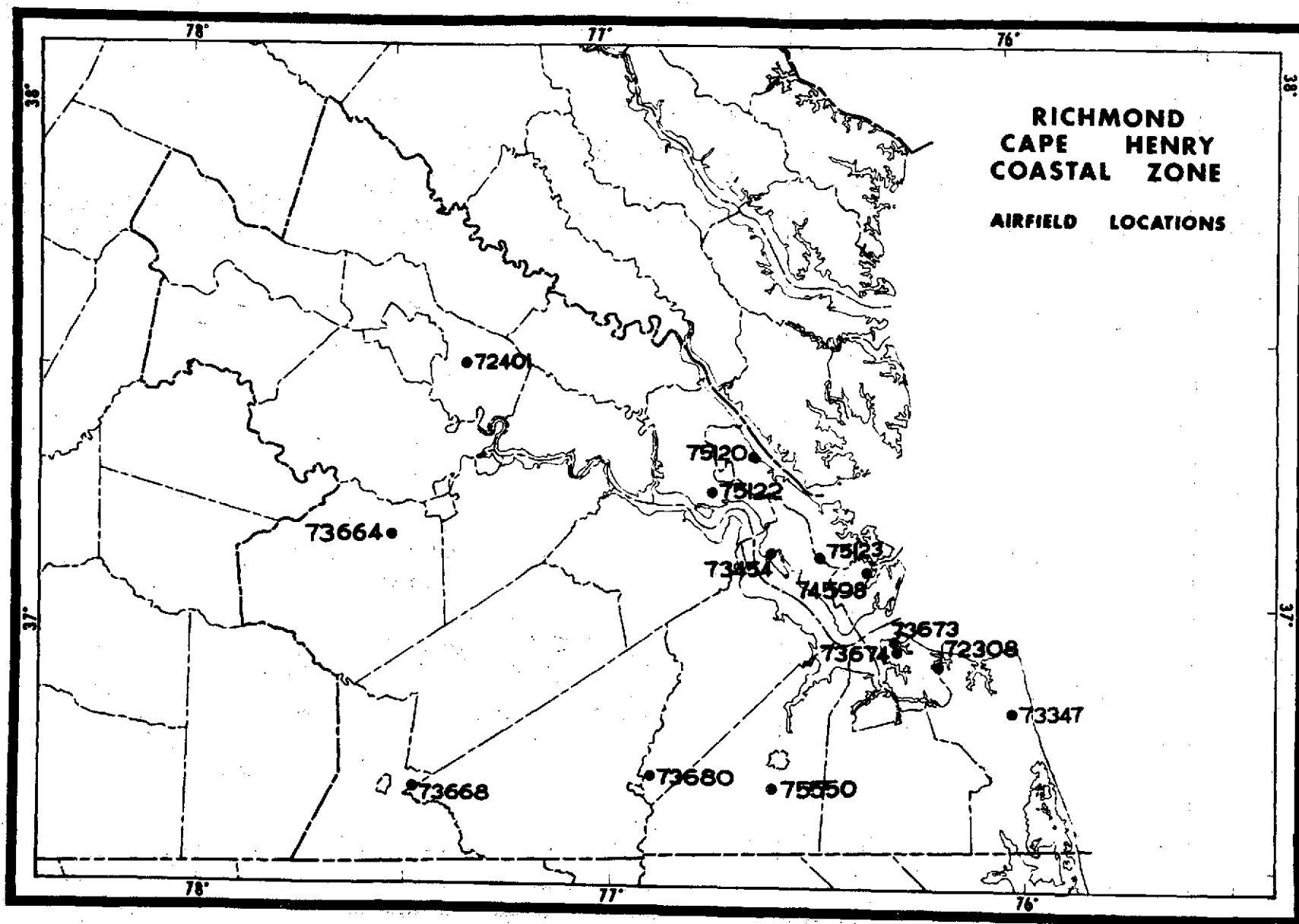
MONTHLY CLIMATOLOGICAL DATA

The following section represents data collected from 14 airfields within the test site. In the case of precipitation records at Norfolk the records go back 90 years. For most of the period of observation, however, the stations may be divided into two groups. Five stations have been operational for approximately five to six years while the other nine have been recording observations for more than ten years. These stations are distributed as shown on the location map preceding the actual data sheets. The stations are presented in alphabetical order and not in numerical order as they appear in Airfield Summaries*, where the information was extracted. To facilitate reference to a particular field, we have drafted a location map and compiled an abbreviated index to include only those stations of direct interest. For easier reference verification, we have included the page number in Airfield Summaries where the reader may find the original data.

*U.S. Naval Weather Service Worldwide Airfield Summaries, Vol. 8, Part 7, February, 1970, National Technological Information Service, Springfield, Virginia.

AIRFIELDS IN TEST SITE

<u>Name of Airfield</u>	<u>Station Number</u>
Emporia Mun	73668
Franklin Mun	73680
Hampton/Langley AFB	74598
Newport News/Felker AAF	73454
Newport News/Patrick Henry	75123
Norfolk	72308
Norfolk/NAS Chambers	73674
Norfolk/NAS East	73673
Oceana/NAS	73347
Petersburg Mun	73664
Richmond/Byrd	72401
Suffolk Mun	75550
Williamsburg/Camp Peary AAF	75120
Williamsburg/Central Airport	75122



EMPORIA MUNICIPAL, VIRGINIA
STA NO. 73668

LAT: 362N LONG: 07730W ELEVATION(FT) 00126

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
ABS MAX TMP (F)	80	79	85	92	96	104	105	101	102	98	87	77	105	7	-73304
MEAN MAX TMP (F)	58	58	62	73	81	89	91	89	83	75	62	54	73	7	-73304
MEAN MIN TMP (F)	36	35	39	48	57	66	69	68	60	51	38	32	50	7	-73304
ABS MIN TMP (F)	17	14	20	29	40	49	57	52	41	23	17	13	13	7	-73304
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.8	3.8	15.2	20.3	15.2	6.7	1.1	0.0	0.0	63.1	7	-73304
MEAN NO DYS TMP = OR LES 32(F)	12.6	10.9	9.1	0.8	0.0	0.0	0.0	0.0	0.0	1.0	9.1	17.7	61.2	7	-73304
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7	-73304
MEAN DEW PT TMP (F)	39	36	38	47	58	66	70	69	63	54	40	34	51	6	-73304
MEAN REL HUM (PCT)	75	70	67	65	71	72	75	78	78	77	74	74	73	6	-73304
MEAN PRESS ALT (FT)	-51	-22	19	41	37	48	29	25	-4	-32	-46	-45	0	0	-50
MEAN PRECIP (IN)	3.15	3.34	3.58	3.43	4.01	4.11	6.18	5.03	4.01	2.46	2.79	2.99	45.1	29	-113
MEAN SNOW FALL (IN)	0.7	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.4	7	-73304
MEAN NO DYS PRCP = OR GTR 0.1 IN	6.4	6.6	6.6	6.5	6.8	6.9	8.9	7.8	6.3	4.3	4.7	6.2	78.0	29	-29
MEAN NO DYS SNFL = OR GTR 1.5 IN	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	7	-73304
MEAN NO DYS W/OCCUR VSBY LES 1/2 MI	2.8	2.5	1.8	0.7	0.7	0.5	0.8	2.8	2.8	5.1	2.5	3.2	26.2	6	-73304
MEAN NO DYS TSTMS	0.5	1.1	2.5	2.3	5.8	7.7	7.5	10.0	2.7	0.6	0.3	0.0	41.0	7	-73304
P FREQ WND SPD = OR GTR 17 KTS	3.2	3.0	5.7	4.0	1.2	2.3	1.3	1.2	1.2	1.5	2.4	3.4	2.5	6	-73304
P FREQ WND SPD = OR GTR 28 KTS	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	-73304
P FREQ LES 5000 FT A/D LES 5 MI	32.0	26.0	23.3	18.0	21.9	20.1	20.2	25.2	24.4	30.8	27.0	27.4	24.7	6	-73304
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	20.1	13.0	12.9	10.8	12.1	9.3	7.7	10.0	12.4	17.2	14.0	14.8	12.9	6	-73304
03-05 LST	18.8	15.4	14.9	11.1	16.1	16.1	15.6	21.2	24.5	24.8	15.4	15.9	17.5	6	-73304
06-08 LST	27.1	22.5	15.8	14.8	16.7	16.7	21.5	24.6	27.4	32.0	26.0	22.2	22.3	6	-73304
09-11 LST	20.6	17.2	13.3	8.1	12.0	8.0	8.4	11.1	12.5	17.6	14.7	16.8	13.4	6	-73304
12-14 LST	15.4	11.8	9.0	6.9	6.3	2.8	2.2	4.8	5.6	8.8	8.9	14.4	8.1	6	-73304
15-17 LST	13.3	8.9	6.8	4.8	4.7	2.6	2.5	2.2	5.7	7.5	7.8	12.8	6.6	6	-73304
18-20 LST	12.5	7.1	7.3	5.2	6.8	3.5	2.3	4.5	6.5	8.2	9.3	9.9	6.9	6	-73304
21-23 LST	16.4	10.3	10.9	5.6	7.9	3.2	3.6	4.3	6.5	9.1	11.5	12.6	8.5	6	-73304
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	4.1	3.9	2.0	0.0	1.6	0.4	0.4	1.6	3.3	4.3	2.4	4.0	2.3	6	-73304
03-05 LST	4.1	3.9	2.9	0.6	3.0	1.7	2.7	8.4	10.2	12.0	5.2	4.9	5.0	6	-73304
06-08 LST	5.6	4.9	2.9	1.1	1.3	1.3	2.2	6.1	6.9	10.6	5.8	5.8	4.5	6	-73304
09-11 LST	3.0	1.8	0.7	0.0	0.0	0.2	0.0	0.2	0.0	0.4	0.9	1.8	0.8	6	-73304
12-14 LST	1.1	0.2	0.5	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9	0.3	6	-73304
15-17 LST	1.6	1.2	0.5	0.4	0.0	0.4	0.2	0.0	0.0	0.2	0.4	0.9	0.5	6	-73304
18-20 LST	2.9	1.0	0.7	0.4	0.0	0.2	0.2	0.7	0.0	0.7	0.6	1.1	0.7	6	-73304
21-23 LST	4.9	3.2	1.4	0.2	0.4	0.0	0.0	0.2	0.2	0.9	0.7	2.9	1.3	6	-73304

A-31

EMPORIA MUNICIPAL, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PQR (YRS)	NO, OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	28.0	26.0	29.6	29.3	29.6	29.6	30.3	30.2	29.0	29.1	27.7	28.6	347.0	6	-73304
	01 LST	25.8	25.3	27.5	28.0	28.0	27.8	29.3	28.8	27.3	26.8	26.5	26.8	327.9	6	-73304
	07 LST	23.8	23.2	26.7	26.5	26.2	26.0	25.3	23.8	22.1	20.6	22.7	23.9	290.8	6	-73304
	13 LST	26.8	25.3	28.6	29.0	30.7	29.6	30.7	30.5	28.8	29.8	29.2	27.6	346.6	6	-73304
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	21.8	20.4	21.5	20.0	26.7	22.5	24.6	26.0	24.5	25.3	23.2	22.8	279.3	6	-73304
	01 LST	19.2	18.7	19.7	23.6	24.6	23.2	25.1	26.0	23.8	22.7	22.8	20.3	269.7	6	-73304
	07 LST	17.1	17.6	18.7	16.3	21.1	20.0	20.2	20.0	17.8	16.6	18.8	19.6	223.8	6	-73304
	13 LST	13.0	11.9	12.2	11.2	18.2	16.8	20.5	18.3	17.3	16.8	13.7	13.2	183.1	6	-73304
SFC WND = GTR 17 KTS AND ND PRECIP.	19 LST	0.0	0.7	0.7	0.2	0.3	0.5	0.0	0.7	0.3	0.2	0.5	0.5	4.6	6	-73304
	01 LST	0.3	0.3	1.4	0.3	0.0	0.0	0.2	0.7	0.2	0.0	0.3	0.3	4.0	6	-73304
	07 LST	0.7	0.2	1.2	1.0	0.3	0.8	0.3	0.0	0.2	0.2	0.2	0.3	5.4	6	-73304
	13 LST	2.9	2.9	3.3	2.9	0.3	1.3	1.0	0.3	0.8	1.5	1.9	1.9	21.0	6	-73304
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND ND PRECIP.	19 LST	17.0	16.7	18.0	16.3	19.5	16.7	17.1	17.0	16.7	15.2	12.8	13.0	196.0	6	-73304
	01 LST	14.2	14.5	15.2	20.0	16.3	16.2	17.1	13.7	13.5	13.1	12.5	10.1	176.4	6	-73304
	07 LST	14.3	13.0	15.4	19.1	21.3	19.1	20.2	19.1	18.4	14.8	11.3	8.9	194.9	6	-73304
	13 LST	14.1	15.0	15.0	13.8	18.8	10.5	8.6	13.3	15.2	19.1	16.5	14.4	174.3	6	-73304
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	11.7	12.2	13.3	12.5	10.3	7.7	8.0	8.3	12.3	16.8	14.5	14.7	142.3	6	-73304
	01 LST	13.0	11.9	15.0	15.8	16.8	13.3	16.3	16.3	15.0	17.0	15.3	15.9	181.6	6	-73304
	07 LST	6.1	7.3	10.3	12.0	10.5	9.0	8.5	9.5	8.0	11.2	11.6	8.7	112.7	6	-73304
	13 LST	7.7	9.9	8.6	6.8	7.2	5.2	4.3	5.8	8.5	11.0	12.5	11.4	98.9	6	-73304
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	26.2	25.0	28.3	27.7	28.6	27.7	29.1	29.0	27.3	28.0	26.2	26.6	329.7	6	-73304
	01 LST	24.5	23.5	26.5	26.2	26.2	26.0	28.3	27.5	25.7	24.3	24.7	25.3	308.7	6	-73304
	07 LST	21.1	20.9	23.5	24.7	24.3	23.8	24.0	22.5	20.8	19.8	21.2	22.4	271.0	6	-73304
	13 LST	24.6	23.5	26.3	27.5	27.2	26.8	29.0	26.5	27.0	26.2	26.3	25.1	316.0	6	-73304
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.0	22.5	26.0	25.0	25.8	25.1	27.7	25.5	25.0	24.8	24.3	23.9	298.6	6	-73304
	01 LST	21.8	21.2	24.3	24.8	25.1	25.0	27.7	26.5	24.3	22.8	22.7	22.8	269.0	6	-73304
	07 LST	18.3	18.8	23.0	23.0	22.3	22.7	23.2	21.3	19.1	18.2	19.3	20.6	249.5	6	-73304
	13 LST	21.6	20.0	22.0	20.5	20.3	20.6	21.1	18.7	21.7	22.3	24.2	22.9	255.4	6	-73304
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.8	20.2	23.8	23.6	24.0	23.3	25.6	23.8	24.0	24.3	22.8	22.1	278.3	6	-73304
	01 LST	19.3	18.7	22.0	22.5	25.0	24.2	27.5	25.5	23.5	22.5	21.3	20.9	272.9	6	-73304
	07 LST	15.2	16.2	19.2	20.6	20.8	21.5	21.8	18.8	17.6	17.1	18.0	18.6	225.4	6	-73304
	13 LST	19.0	18.7	19.7	18.8	19.2	19.8	20.3	17.8	20.6	21.8	22.3	20.8	238.8	6	-73304

A-32

FRANKLIN MUNICIPAL, VIRGINIA
STA NO. 73680

LAT: 3642N LONG: 07654W ELEVATION (FT) 0037

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. DBS
ABS MAX TMP (F)	79	78	87	92	95	101	100	97	100	93	84	78	101	13	4744
MEAN MAX TMP (F)	51	52	57	68	76	83	87	85	79	70	60	52	68	13	4744
MEAN MIN TMP (F)	37	37	42	51	60	68	73	72	67	58	46	38	54	13	4744
ABS MIN TMP (F)	17	12	23	30	42	54	61	60	52	35	21	17	12	13	4744
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.3	1.6	7.7	12.4	7.4	3.1	0.1	0.0	0.0	32.6	13	4744
MEAN NO DYS TMP = OR LES 32(F)	9.5	7.6	3.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	7.9	30.0	13	4744
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13	4744
MEAN DEW PT TMP (F)	35	35	39	47	57	64	69	69	63	55	43	36	51	12	97700
MEAN REL HUM (PCT)	73	71	68	68	71	71	73	75	74	75	71	71	72	12	97699
MEAN PRESS ALT (FT)	-137	-108	-67	-46	-51	-41	-60	-63	-91	-118	-132	-129	-86	0	-50
MEAN PRECIP (IN)	2.51	3.24	3.31	2.63	3.30	2.58	4.35	5.60	3.30	2.39	2.65	2.68	38.5	10	3649
MEAN SNOW FALL (IN)	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.8	4.0	10	3650
MEAN NO DYS PRCP = OR GTR 0.1 IN	5.6	6.7	8.1	6.1	6.6	5.3	7.0	7.7	4.8	4.9	4.8	5.6	73.2	10	3649
MEAN NO DYS SNFL = OR GTR 1.5 IN	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	10	3650
MEAN NO DYS W/OCUR VSBY LES 1/2 MI	3.6	2.5	2.5	2.2	2.3	1.4	1.2	0.7	1.0	2.4	2.3	2.9	25.0	12	4073
MEAN NO DYS TSTMS	0.2	0.4	1.7	3.3	4.7	6.2	8.4	6.9	2.5	0.9	0.5	0.0	35.7	13	4744
P FREQ WND SPD = OR GTR 17 KTS	15.8	18.4	19.6	16.0	9.5	6.2	5.5	5.1	11.3	12.6	13.2	12.1	12.1	12	97633
P FREQ WND SPD = OR GTR 28 KTS	0.7	0.7	1.3	0.4	0.2	0.1	0.0	0.3	0.4	0.6	0.5	0.5	0.5	12	97633
P FREQ LES 5000 FT A/D LES 5 MI	38.4	33.8	29.1	29.9	28.1	26.5	23.4	27.5	28.3	36.5	32.9	30.7	30.4	12	97740
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	20.8	16.3	14.0	15.4	16.0	11.6	6.6	9.1	10.8	18.5	15.7	14.6	14.1	12	12217
03-05 LST	20.3	17.8	15.6	17.6	19.2	15.8	13.3	17.2	16.1	21.7	18.1	14.6	17.3	13	12579
06-08 LST	25.4	24.7	20.2	19.5	20.7	15.0	16.4	20.7	19.9	26.5	22.8	21.4	21.1	13	12948
09-11 LST	24.7	19.4	15.0	14.9	14.9	9.4	10.0	11.3	15.2	17.5	15.6	19.3	15.6	13	13130
12-14 LST	18.3	14.8	12.1	11.3	11.6	6.4	6.5	5.2	11.7	14.9	10.8	16.6	11.7	13	13136
15-17 LST	18.3	16.0	10.3	10.4	10.7	7.1	7.2	5.0	11.9	14.7	12.1	15.3	11.6	13	12908
18-20 LST	17.2	14.3	11.5	12.0	12.2	8.6	8.0	8.8	11.5	15.0	11.4	12.8	11.9	12	12219
21-23 LST	18.9	14.3	12.5	12.9	12.1	8.3	6.5	6.7	10.8	17.5	13.9	14.2	12.4	12	12216
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	5.0	3.6	2.6	2.9	4.1	2.0	0.3	0.2	0.9	3.6	3.2	4.6	2.8	12	12217
03-05 LST	4.7	4.1	4.4	4.7	4.8	2.2	1.7	2.9	2.4	5.5	4.1	5.3	3.9	13	12579
06-08 LST	5.6	5.7	5.2	3.9	2.7	1.4	1.4	2.0	3.2	5.3	5.0	5.5	3.9	13	12948
09-11 LST	4.8	4.0	1.8	1.5	1.0	0.4	0.1	0.2	0.3	1.4	1.5	3.2	1.7	13	13130
12-14 LST	3.1	1.9	1.6	0.8	0.5	0.1	0.3	0.1	0.1	0.4	0.8	2.6	1.0	13	13136
15-17 LST	3.5	3.4	1.9	1.3	0.8	0.5	0.4	0.5	0.2	1.0	1.7	3.2	1.5	13	12908
18-20 LST	3.8	3.2	3.1	2.2	1.4	0.1	0.1	0.1	0.4	1.2	1.6	3.1	1.7	12	12219
21-23 LST	4.5	2.9	2.9	2.9	2.9	1.2	0.3	0.0	0.6	2.2	2.8	3.5	2.2	12	12216

FRANKLIN MUNICIPAL, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	26.7	25.1	28.1	26.7	27.9	28.2	29.0	28.8	27.7	27.6	27.5	27.4	330.7	13	4265
	01 LST	25.2	24.4	27.7	25.6	26.9	27.3	29.1	28.9	27.7	26.3	25.6	26.7	321.4	13	4197
	07 LST	22.5	21.4	24.8	25.1	25.6	26.2	26.9	25.2	24.7	23.7	23.2	23.6	292.9	13	4379
	13 LST	26.2	24.3	28.1	28.1	28.3	28.7	30.0	30.4	27.8	27.3	27.6	26.9	333.9	13	4379
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	12.9	12.3	12.6	9.6	13.4	14.9	15.6	19.3	16.2	15.3	14.8	13.6	170.7	13	4165
	01 LST	10.5	9.3	10.5	10.4	14.2	17.2	18.1	18.4	15.5	14.3	11.6	12.2	162.2	13	4127
	07 LST	7.2	7.4	7.8	8.7	11.2	13.5	15.5	14.1	12.0	11.9	11.2	11.2	131.7	13	4196
	13 LST	8.9	7.2	6.0	7.4	9.8	12.7	13.6	15.2	10.1	10.6	11.3	10.4	123.2	13	4186
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	3.6	3.2	4.5	4.1	2.5	1.4	1.6	1.1	2.3	3.2	2.6	2.7	32.8	13	4023
	01 LST	4.4	4.2	5.2	3.3	2.0	1.0	0.7	0.7	3.2	3.7	3.1	2.9	34.4	13	4010
	07 LST	4.2	4.2	5.1	3.9	2.9	1.2	0.8	1.3	3.5	3.4	3.6	4.2	38.3	13	4078
	13 LST	6.9	6.2	7.9	7.1	3.9	2.3	2.8	1.5	3.6	4.2	4.7	4.3	55.4	13	4085
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	13.7	13.7	15.6	14.8	18.8	17.0	18.8	21.0	18.2	16.6	16.3	14.4	198.9	13	4023
	01 LST	12.4	11.8	12.9	13.8	17.3	18.9	18.9	18.8	16.8	17.2	15.3	14.0	188.1	13	4010
	07 LST	11.2	10.4	12.7	13.9	16.5	17.9	19.8	18.9	17.2	15.2	16.1	13.7	183.5	13	4078
	13 LST	11.8	11.5	10.0	10.2	13.8	13.0	12.5	16.1	13.9	14.3	14.2	12.9	154.2	13	4085
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	9.9	10.0	11.1	7.8	7.0	5.4	5.3	8.8	9.7	13.5	13.2	12.2	113.9	12	3776
	01 LST	11.4	12.0	14.3	12.2	12.1	13.8	14.1	12.1	14.1	15.4	14.3	14.4	160.2	12	3789
	07 LST	5.6	6.8	8.4	8.0	8.4	8.0	8.4	7.0	6.4	9.9	8.5	7.6	93.0	12	3778
	13 LST	6.4	8.0	6.7	7.3	6.6	5.4	5.9	6.3	5.7	9.0	9.0	9.3	85.6	12	3780
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	24.6	23.2	26.8	25.4	26.4	26.5	27.0	26.8	25.5	24.4	26.1	26.6	309.3	13	4265
	01 LST	23.3	22.0	25.7	24.2	24.8	25.8	27.7	26.8	26.4	23.3	24.6	25.7	300.3	13	4197
	07 LST	21.1	19.4	23.2	23.0	23.7	24.2	24.5	23.0	21.8	21.5	21.3	22.7	269.4	13	4379
	13 LST	24.0	22.2	25.9	25.5	26.0	26.3	26.3	27.3	23.8	24.7	25.4	25.1	302.5	13	4379
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	21.1	20.5	24.1	22.3	23.7	23.2	24.6	24.6	23.3	21.8	23.2	23.9	276.3	13	4265
	01 LST	20.4	19.5	23.4	22.1	22.7	24.5	25.9	25.1	24.0	21.2	21.9	23.6	274.3	13	4197
	07 LST	17.8	17.4	20.3	20.3	22.0	22.4	22.7	20.9	19.7	19.6	18.1	19.8	241.0	13	4379
	13 LST	21.2	19.3	21.7	20.5	21.1	21.7	22.8	22.8	20.5	21.5	21.9	23.3	258.3	13	4379
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	18.6	18.1	21.3	19.8	22.0	21.5	22.5	23.2	21.9	20.3	21.7	22.1	253.0	13	4265
	01 LST	18.2	16.9	20.9	19.4	20.4	22.6	24.5	22.9	23.0	20.3	20.0	21.4	250.5	13	4197
	07 LST	15.4	15.1	17.9	17.6	19.8	21.3	20.8	19.1	18.3	18.5	15.9	16.9	216.6	13	4379
	13 LST	18.3	17.6	18.9	19.2	20.1	20.7	21.5	21.6	19.3	20.9	19.9	20.2	238.2	13	4379

HAMPTON/LANGLEY AFB, VIRGINIA
STA NO. 74598

	LAT: 3705N				LONG: 07621W				ELEVATION(FT)				00010	PDR	NO.
PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	(YRS)	DBS
ABS MAX TMP (F)	78	82	90	95	97	102	103	100	98	95	85	78	103	40	-613
MEAN MAX TMP (F)	49	51	57	67	75	83	86	85	80	70	60	51	68	39	-113
MEAN MIN TMP (F)	33	34	40	49	58	67	71	70	66	54	43	35	52	39	-113
ABS MIN TMP (F)	5	4	11	22	33	47	56	53	46	32	15	6	4	40	-613
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.5	1.5	7.7	12.2	8.5	2.7	0.2	0.0	0.0	33.3	12	4382
MEAN NO DYS TMP = OR LES 32(F)	14.0	10.1	5.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	3.2	13.6	46.9	12	4382
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12	4382
MEAN DEW PT TMP (F)	32	33	36	47	56	64	69	69	64	54	42	33	50	12	105135
MEAN REL HUM (PCT)	71	71	68	67	71	71	73	75	74	75	72	72	72	12	105134
MEAN PRESS ALT (FT)	-163	-134	-96	-76	-81	-72	-92	-91	-117	-143	-159	-155	-114	0	-50
MEAN PRECIP (IN)	3.14	3.24	3.36	2.99	3.45	3.50	4.95	4.72	3.74	2.55	2.62	2.73	41.0	41	-113
MEAN SNOW FALL (IN)	2.2	1.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.4	7.5	12	4383
MEAN NO DYS PRCP = OR GTR 0.1 IN	6.4	6.5	6.4	6.1	6.5	6.2	7.7	7.5	6.0	4.4	4.5	5.8	74.0	41	-29
MEAN NO DYS SNFL = OR GTR 1.5 IN	0.7	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.9	12	4383
MEAN NO DYS W/DCUR VSBY LES 1/2 MI	2.7	3.5	2.0	1.4	2.1	0.9	0.5	0.7	1.7	3.3	3.0	3.5	25.3	12	4382
MEAN NO DYS TSTMS	0.2	0.6	1.8	3.2	5.8	6.0	9.3	6.7	3.2	1.3	0.7	0.5	39.3	12	4383
P FREQ WND SPD = OR GTR 17 KTS	12.8	12.8	14.0	10.5	7.0	3.5	3.3	4.5	6.8	10.6	9.1	10.0	8.7	12	105157
P FREQ WND SPD = OR GTR 28 KTS	0.5	0.4	0.4	0.8	0.1	0.0	0.0	0.2	0.5	1.1	0.4	0.4	0.4	12	105157
P FREQ LES 5000 FT A/D LES 5 MI	29.3	30.2	28.6	23.7	24.1	21.5	18.2	26.8	24.5	31.8	26.8	24.5	25.8	12	105160
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	16.8	15.3	15.6	12.8	13.4	9.5	6.0	10.0	9.7	15.5	15.1	13.5	12.8	12	13145
03-05 LST	16.8	17.9	14.5	13.9	17.3	13.4	9.2	14.3	13.7	19.5	16.1	14.1	15.1	12	13146
06-08 LST	20.5	20.6	18.5	16.8	18.1	15.6	13.2	19.4	18.1	25.4	18.6	17.7	18.5	12	13145
09-11 LST	18.5	18.0	15.8	11.6	13.0	11.1	8.3	11.8	10.7	17.3	14.6	16.9	14.0	12	13143
12-14 LST	15.5	15.7	11.9	9.7	9.0	6.6	4.2	5.6	8.5	12.3	10.5	13.6	10.3	12	13144
15-17 LST	13.4	16.5	12.1	8.0	9.4	5.6	3.2	4.9	9.0	11.7	11.2	12.3	9.8	12	13145
18-20 LST	14.7	16.0	11.9	8.1	9.5	7.4	3.2	6.2	7.5	10.7	11.4	12.7	9.9	12	13146
21-23 LST	16.7	15.7	14.3	9.6	12.0	8.1	3.7	8.4	8.8	12.7	12.4	13.4	11.3	12	13146
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	4.7	5.4	4.4	2.6	4.3	0.9	0.2	0.7	0.9	3.6	5.6	3.2	3.2	12	13145
03-05 LST	5.2	6.4	3.9	2.9	4.1	2.3	0.8	2.0	3.3	5.5	7.2	5.5	4.1	12	13146
06-08 LST	6.0	6.5	3.5	3.5	3.3	1.5	0.5	2.6	3.3	6.6	6.0	6.1	4.1	12	13145
09-11 LST	2.5	4.1	2.5	1.2	1.4	0.5	0.1	0.3	0.4	1.7	2.9	3.7	1.8	12	13143
12-14 LST	2.7	3.4	1.9	0.2	0.3	0.1	0.2	0.4	0.4	0.5	0.8	2.9	1.2	12	13144
15-17 LST	3.2	4.6	2.0	0.8	0.4	0.4	0.4	0.8	0.6	1.1	2.2	3.7	1.7	12	13145
18-20 LST	3.7	5.5	2.6	2.1	2.0	0.3	0.2	0.2	0.4	1.1	1.9	3.2	1.9	12	13146
21-23 LST	3.5	3.7	3.9	1.6	3.0	0.6	0.0	0.1	0.1	2.5	3.1	4.4	2.2	12	13146

A-35

HAMPTON/LANGLEY AFB, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PQR (YRS)	NO. UBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.4	24.4	27.7	28.1	28.5	28.3	30.4	29.6	28.5	28.9	27.5	28.1	337.4	12	4382
	01 LST	27.2	24.6	27.0	26.8	27.4	28.0	30.2	29.1	27.7	27.8	26.0	27.3	329.1	12	4382
	07 LST	24.6	22.6	26.2	25.7	26.5	26.5	28.2	26.7	25.4	23.9	24.9	26.1	307.3	12	4382
	13 LST	27.3	23.9	27.9	28.6	29.1	29.3	30.2	30.2	28.7	28.0	27.6	27.6	338.4	12	4382
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	18.7	16.5	17.1	17.1	20.2	21.0	22.9	22.5	20.3	19.6	18.7	19.2	233.8	12	4382
	01 LST	15.7	13.9	14.7	15.7	18.5	21.2	22.5	22.2	19.7	18.5	15.8	16.4	214.8	12	4382
	07 LST	13.0	12.2	13.0	12.5	13.8	16.1	17.3	16.7	16.1	13.8	14.8	16.6	175.9	12	4382
	13 LST	10.1	9.7	8.2	8.4	12.9	15.5	16.4	16.7	14.3	13.0	11.5	11.9	148.6	12	4382
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	2.6	1.8	3.3	1.5	1.3	0.4	0.6	0.5	1.1	2.4	1.0	2.4	18.9	12	4245
	01 LST	2.5	3.6	2.7	1.6	1.1	0.6	0.2	0.5	1.5	2.0	2.1	2.0	20.4	12	4247
	07 LST	2.5	2.6	3.5	2.6	2.4	1.1	1.1	1.7	2.7	3.3	2.6	2.5	28.6	12	4233
	13 LST	5.7	5.4	6.5	5.0	3.5	1.7	1.5	1.8	2.4	4.1	3.8	5.1	46.5	12	4263
SFC WND 4-10 KTS AND THP 33-89 DEG F AND NO PRECIP.	19 LST	13.4	13.9	17.6	19.2	19.4	18.4	20.1	18.8	17.6	14.2	15.3	13.3	201.2	12	4245
	01 LST	12.3	12.2	13.8	16.1	14.9	16.4	17.2	15.5	13.3	14.4	13.0	11.7	170.8	12	4247
	07 LST	10.5	11.6	14.0	15.3	15.4	16.7	18.1	15.6	14.6	13.3	13.8	11.0	169.9	12	4233
	13 LST	11.8	12.6	12.5	12.7	16.9	16.1	15.9	15.5	17.5	16.6	15.2	14.0	177.3	12	4263
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	11.1	9.7	11.2	7.9	7.8	6.8	5.6	8.2	10.6	12.5	13.4	12.5	117.3	12	4382
	01 LST	12.9	12.1	12.7	13.2	13.6	13.4	13.8	13.0	15.0	14.8	14.3	15.7	164.5	12	4382
	07 LST	7.8	7.9	9.4	8.6	7.8	8.1	8.0	7.2	7.7	10.1	10.4	9.0	102.0	12	4382
	13 LST	8.7	7.4	7.1	7.5	6.2	6.0	5.6	6.3	8.4	10.5	9.1	9.2	92.0	12	4382
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.4	23.2	26.5	26.2	27.0	27.1	29.6	27.3	27.1	26.1	25.7	26.0	317.2	12	4382
	01 LST	24.7	22.5	24.8	25.8	26.1	26.4	28.6	26.9	26.1	24.6	24.0	26.1	306.6	12	4382
	07 LST	23.5	21.3	24.1	23.8	24.6	24.3	25.6	23.2	23.4	21.6	23.4	24.0	282.8	12	4382
	13 LST	25.0	22.8	25.6	26.0	27.2	27.2	28.5	26.6	25.4	25.4	26.3	26.0	312.0	12	4382
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	22.5	20.5	22.8	22.6	24.0	23.6	26.6	24.6	24.8	22.7	22.9	23.8	281.4	12	4382
	01 LST	22.2	19.8	22.3	23.4	24.6	24.8	27.8	25.0	24.1	22.6	21.7	24.8	283.1	12	4382
	07 LST	20.2	18.2	21.2	21.2	22.8	22.8	24.1	21.8	20.9	18.8	20.8	21.5	254.3	12	4382
	13 LST	22.0	19.2	20.9	20.3	22.5	23.7	24.4	22.9	22.0	22.2	23.2	23.3	266.6	12	4382
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.4	18.6	19.7	20.7	21.5	22.2	24.5	23.2	23.5	21.1	20.8	22.0	258.2	12	4382
	01 LST	20.5	18.1	20.2	20.6	22.6	23.1	25.6	23.5	22.7	20.8	19.4	22.5	259.6	12	4382
	07 LST	18.3	16.7	19.4	18.9	20.2	20.9	22.2	20.1	19.3	17.4	19.1	19.4	231.9	12	4382
	13 LST	19.5	17.0	19.2	18.8	20.8	22.7	23.6	21.7	21.0	21.1	21.3	21.5	248.2	12	4382

NEWPORT NEWS/FELKER AAF, VIRGINIA
STA NO. 73454

LAT: 3708N LONG: 07637W ELEVATION(FT) 00010

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. 385
ABS MAX TMP (F)	72	76	84	90	93	99	96	94	95	86	80	73	99	6	1764
MEAN MAX TMP (F)	47	49	58	66	77	83	85	85	78	70	61	47	67	6	1764
MEAN MIN TMP (F)	29	32	40	48	59	66	70	69	62	51	43	31	30	6	1764
ABS MIN TMP (F)	10	11	23	30	40	49	58	53	44	32	25	13	10	6	1764
MEAN NO DYS TMP = DR GTR 90(F)	0.0	0.0	0.0	0.2	3.0	5.0	7.2	6.2	3.2	0.0	0.0	0.0	24.8	6	1764
MEAN NO DYS TMP = DR LES 32(F)	20.6	16.1	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4	20.2	65.5	6	1764
MEAN NO DYS TMP = DR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	1764
MEAN DEW PT TMP (F)	27	29	36	42	54	63	68	66	61	49	41	28	47	6	42333
MEAN REL HUM (PCT)	68	67	63	60	65	71	74	73	75	70	68	67	68	6	42333
MEAN PRESS ALT (FT)	-165	-136	-97	-76	-81	-72	-92	-91	-117	-144	-160	-157	-115	0	-50
MEAN PRECIP (IN)	3.28	4.10	3.60	2.80	3.52	4.36	5.41	2.74	4.05	2.79	2.94	3.21	42.8	5	1370
MEAN SNOW FALL (IN)	4.8	3.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	11.2	5	1370
MEAN NO DYS PRCP = DR GTR 0.1 IN	6.2	8.4	8.2	6.0	6.7	7.7	7.5	6.2	3.8	4.2	4.2	6.0	75.1	5	1370
MEAN NO DYS SNFL = DR GTR 1.5 IN	1.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	5	1370
MEAN NO DYS W/DCUR VSBY LES 1/2 MI	4.0	4.8	2.4	1.2	1.6	1.2	0.2	1.0	1.0	3.0	4.0	2.8	27.2	6	1764
MEAN NO DYS TSTMS	0.0	0.6	1.6	3.2	6.2	6.2	8.2	6.6	1.0	1.2	0.0	0.6	35.4	6	1764
P FREQ WND SPD = DR GTR 17 KTS	3.4	5.1	5.5	3.0	0.3	0.4	0.1	0.2	1.0	1.4	2.3	2.3	2.1	6	42334
P FREQ WND SPD = DR GTR 28 KTS	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6	42334
P FREQ LES 5000 FT A/D LES 5 MI	26.2	33.5	26.3	24.0	22.2	26.8	21.1	18.1	28.2	23.1	23.8	24.6	24.8	6	42334
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	12.5	19.4	13.1	9.8	9.0	8.4	6.5	2.8	13.3	15.9	14.0	14.0	11.6	6	5291
03-05 LST	15.3	20.1	11.8	12.4	11.8	14.4	8.0	7.1	14.4	19.1	14.0	15.5	13.7	6	5292
06-08 LST	20.0	25.3	15.5	18.0	13.5	21.1	16.1	16.0	18.1	19.4	17.8	16.1	18.1	6	5291
09-11 LST	19.6	24.3	13.1	16.4	11.6	15.6	7.1	7.1	13.1	12.6	12.9	17.2	14.2	6	5292
12-14 LST	15.5	17.7	8.6	9.8	4.1	10.4	3.2	2.6	8.9	6.5	8.0	14.8	9.2	6	5292
15-17 LST	13.5	17.5	8.2	7.1	2.6	10.4	3.7	2.4	11.9	7.0	7.8	11.4	8.6	6	5292
18-20 LST	12.3	20.1	11.2	7.6	5.6	10.4	3.9	2.2	11.7	8.1	7.3	11.0	9.3	6	5292
21-23 LST	13.3	20.3	12.3	8.7	7.1	9.3	5.8	3.2	11.7	11.3	8.7	12.5	10.4	6	5292
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.9	6.1	3.7	2.9	2.4	0.9	0.2	0.0	0.6	5.1	5.1	4.9	3.0	6	5291
03-05 LST	5.4	6.6	4.3	3.8	2.6	1.8	0.9	0.6	0.6	6.5	6.7	6.0	3.8	6	5292
06-08 LST	5.8	10.2	2.6	2.0	1.7	2.2	0.2	1.7	2.5	4.6	6.4	6.7	3.9	6	5291
09-11 LST	6.5	3.8	2.8	0.7	0.0	0.2	0.0	0.0	1.1	0.8	2.9	3.9	1.9	6	5292
12-14 LST	4.1	3.1	2.2	0.7	0.0	0.2	0.0	0.0	0.0	0.3	1.1	1.5	1.1	6	5292
15-17 LST	3.7	2.8	0.6	0.4	0.2	0.4	0.6	0.2	0.0	0.3	1.1	1.7	1.0	6	5292
18-20 LST	2.6	3.8	1.9	1.1	0.0	0.0	0.2	0.0	0.6	0.0	0.4	3.7	1.2	6	5292
21-23 LST	3.4	6.1	3.0	1.3	1.1	0.9	0.0	0.0	1.1	1.6	2.4	3.9	2.1	6	5292

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

NEWPORT NEWS/FELKER AAF, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PQR (YRS)	NO. UBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.8	23.0	27.8	27.8	30.2	27.8	30.2	30.2	27.2	29.2	28.8	28.2	338.2	6	1764
	01 LST	27.6	23.4	27.2	27.4	28.8	27.6	29.4	30.4	26.7	26.2	26.8	27.0	328.5	6	1764
	07 LST	25.8	21.0	26.6	25.6	27.8	25.0	26.8	27.0	25.2	25.5	24.0	27.0	307.3	6	1764
	13 LST	26.6	23.4	29.0	27.8	30.6	28.4	30.4	30.8	28.0	29.5	28.2	26.8	339.5	6	1764
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	20.4	16.3	17.8	17.6	23.8	21.8	25.4	27.4	21.8	22.7	22.6	21.8	259.4	6	1764
	01 LST	19.0	14.5	17.6	17.2	22.8	22.6	23.4	26.4	20.7	20.2	19.2	18.4	242.0	6	1764
	07 LST	18.0	13.5	17.2	16.0	21.4	19.0	21.8	22.3	20.0	20.2	18.0	18.0	225.4	6	1764
	13 LST	14.6	11.9	14.0	13.0	19.8	18.2	23.0	21.9	16.7	20.2	16.4	12.4	202.1	6	1764
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	0.6	0.8	1.6	0.6	0.0	0.2	0.4	0.0	0.0	0.2	1.0	0.0	5.4	6	1714
	01 LST	0.9	1.2	1.2	0.4	0.0	0.0	0.0	0.2	0.0	0.2	0.4	1.0	5.5	6	1713
	07 LST	0.6	0.6	1.4	0.8	0.2	0.2	0.0	0.0	0.0	0.5	0.2	0.0	4.5	6	1712
	13 LST	1.1	1.5	2.2	1.2	0.2	0.2	0.0	0.2	0.2	0.5	0.6	0.8	8.2	6	1705
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	12.2	13.8	18.1	21.4	24.9	21.5	22.9	23.3	19.6	18.1	16.6	15.1	227.5	6	1714
	01 LST	11.3	11.3	17.4	19.1	18.7	17.2	19.4	17.6	17.7	16.5	17.9	9.5	193.6	6	1713
	07 LST	8.1	8.5	18.4	20.7	21.0	19.1	19.7	19.8	18.3	15.0	17.3	8.4	194.3	6	1712
	13 LST	15.7	15.3	19.5	19.7	22.7	19.4	21.7	21.3	19.1	23.4	20.7	16.6	235.1	6	1705
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	12.6	9.5	9.8	8.2	8.0	6.4	5.4	7.6	11.0	15.7	12.2	14.4	120.8	6	1764
	01 LST	14.2	10.3	15.0	14.2	11.8	12.4	12.4	13.7	16.7	16.5	13.8	16.4	167.4	6	1764
	07 LST	11.0	8.3	8.8	10.0	8.6	8.0	8.8	7.2	9.5	12.7	9.2	12.8	114.9	6	1764
	13 LST	11.4	8.1	8.4	8.8	6.6	5.2	4.6	5.4	9.5	14.7	9.2	9.8	99.7	6	1764
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	26.4	21.8	26.0	27.6	28.6	26.4	29.4	29.8	25.7	28.0	26.8	26.6	323.1	6	1764
	01 LST	26.6	21.8	26.0	25.8	28.0	26.8	28.6	29.6	24.8	25.0	25.0	26.2	314.2	6	1764
	07 LST	23.8	20.0	24.0	24.0	26.4	23.0	25.4	26.2	22.7	24.7	23.0	25.0	288.2	6	1764
	13 LST	25.0	22.6	27.6	26.6	28.2	25.4	29.0	29.2	24.8	28.2	26.6	25.2	318.4	6	1764
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.8	18.6	22.8	22.8	25.8	24.6	25.6	26.6	24.2	25.7	23.6	23.2	287.3	6	1764
	01 LST	25.0	17.7	23.4	23.8	23.8	24.2	26.2	27.6	23.7	24.2	24.0	24.2	287.8	6	1764
	07 LST	21.2	17.5	22.6	23.0	24.2	20.8	24.6	25.1	20.5	22.5	19.8	23.2	285.0	6	1764
	13 LST	21.6	19.7	21.0	21.0	24.0	22.2	24.4	25.1	22.2	25.7	22.8	22.6	272.3	6	1764
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.8	16.5	20.2	21.4	23.8	21.6	22.2	25.0	22.7	24.7	22.6	20.0	261.5	6	1764
	01 LST	22.4	15.5	22.4	21.0	22.0	22.2	24.6	26.2	23.0	22.5	21.6	21.6	265.0	6	1764
	07 LST	19.2	14.9	20.8	20.0	21.2	19.0	22.8	23.3	18.8	21.2	18.4	21.2	240.8	6	1764
	13 LST	20.8	17.3	19.6	18.4	22.0	20.8	22.6	23.7	20.7	24.7	20.2	21.8	252.6	6	1764

NEWPORT NEWS/PATRICK HENRY, VIRGINIA

STA NO. 75123

LAT: 3707N LONG: 07629W ELEVATION(FT) 00041

PDR NO.

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	(YRS)	UBS
ABS MAX TMP (F)	72	76	84	90	93	99	96	94	95	86	80	73	99	6	-73454
MEAN MAX TMP (F)	47	49	58	66	77	83	85	85	78	70	61	47	67	6	-73454
MEAN MIN TMP (F)	29	32	40	48	59	66	70	69	62	51	43	31	50	6	-73454
ABS MIN TMP (F)	10	11	23	30	40	49	58	53	44	32	25	13	10	6	-73454
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.2	3.0	5.0	7.2	6.2	3.2	0.0	0.0	0.0	24.8	6	-73454
MEAN NO DYS TMP = OR LES 32(F)	20.6	16.1	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4	20.2	65.3	6	-73454
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	-73454
MEAN DEW PT TMP (F)	27	29	36	42	54	63	68	66	61	49	41	28	47	6	-73454
MEAN REL HUM (PCT)	68	67	63	60	65	71	74	73	75	70	68	67	68	6	-73454
MEAN PRESS ALT (FT)	-133	-104	-66	-45	-50	-41	-61	-60	-86	-112	-129	-125	-83	0	-50
MEAN PRECIP (IN)	3.28	4.10	3.60	2.80	3.52	4.36	5.41	2.74	4.05	2.79	2.94	3.21	42.8	5	-73454
MEAN SNOW FALL (IN)	4.8	3.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	11.2	5	-73454
MEAN NO DYS PRCP = OR GTR 0.1 IN	6.2	8.4	8.2	6.0	6.7	7.7	7.5	6.2	3.8	4.2	4.2	6.0	75.1	5	-73454
MEAN NO DYS SNFL = OR GTR 1.5 IN	1.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	5	-73454
MEAN NO DYS W/OCUR VSBY LES 1/2 MI	4.0	4.8	2.4	1.2	1.6	1.2	0.2	1.0	1.0	3.0	4.0	2.6	27.2	6	-73454
MEAN NO DYS TSTMS	0.0	0.6	1.6	3.2	6.2	6.2	8.2	6.6	1.0	1.2	0.0	0.6	35.4	6	-73454
P FREQ WND SPD = OR GTR 17 KTS	3.4	5.1	5.5	3.0	0.3	0.4	0.1	0.2	1.0	1.4	2.3	2.3	2.1	6	-73454
P FREQ WND SPD = OR GTR 28 KTS	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6	-73454
P FREQ LES 5000 FT A/D LES 5 MI	26.2	33.5	26.3	24.0	22.2	26.8	21.1	18.1	28.2	23.1	23.8	24.6	24.8	6	-73454
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	12.5	19.4	13.1	9.8	9.0	8.4	6.5	2.8	13.3	15.9	14.0	14.0	11.6	6	-73454
03-05 LST	15.3	20.1	11.8	12.4	11.8	14.4	8.0	7.1	14.4	19.1	14.0	15.5	13.7	6	-73454
06-08 LST	20.0	25.3	15.5	18.0	13.5	21.1	16.1	16.0	18.1	19.4	17.8	16.1	18.1	6	-73454
09-11 LST	19.6	24.3	13.1	16.4	11.6	15.6	7.1	7.1	13.1	12.6	12.9	17.2	14.2	6	-73454
12-14 LST	15.5	17.7	8.6	9.8	4.1	10.4	3.2	2.6	8.9	6.5	8.0	14.8	9.2	6	-73454
15-17 LST	13.5	17.5	8.2	7.1	2.6	10.4	3.7	2.4	11.9	7.0	7.8	11.4	8.6	6	-73454
18-20 LST	12.3	20.1	11.2	7.6	5.6	10.4	3.9	2.2	11.7	8.1	7.3	11.0	9.3	6	-73454
21-23 LST	13.3	20.3	12.3	8.7	7.1	9.3	5.8	3.2	11.7	11.3	8.7	12.5	10.4	6	-73454
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.9	6.1	3.7	2.9	2.4	0.9	0.2	0.0	0.6	5.1	5.1	4.9	3.0	6	-73454
03-05 LST	5.4	6.6	4.3	3.8	2.6	1.8	0.9	0.6	0.6	6.3	6.7	6.0	3.8	6	-73454
06-08 LST	5.8	10.2	2.6	2.0	1.7	2.2	0.2	1.7	2.5	4.6	6.4	6.7	3.9	6	-73454
09-11 LST	6.5	3.8	2.8	0.7	0.0	0.2	0.0	0.0	1.1	0.8	2.9	3.9	1.9	6	-73454
12-14 LST	4.1	3.1	2.2	0.7	0.0	0.2	0.0	0.0	0.0	0.3	1.1	1.5	1.1	6	-73454
15-17 LST	3.7	2.8	0.6	0.4	0.2	0.4	0.6	0.2	0.0	0.3	1.1	1.7	1.0	6	-73454
18-20 LST	2.6	3.8	1.9	1.1	0.0	0.0	0.2	0.0	0.6	0.0	0.4	3.7	1.2	6	-73454
21-23 LST	3.4	6.1	3.0	1.3	1.1	0.9	0.0	0.0	1.1	1.6	2.4	3.9	2.1	6	-73454

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NEWPORT NEWS/PATRICK HENRY, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. U95
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.8	23.0	27.8	27.8	30.2	27.8	30.2	30.2	27.2	29.2	28.8	28.2	338.2	6	-73454
	01 LST	27.6	23.4	27.2	27.4	28.8	27.6	29.4	30.4	26.7	26.2	26.8	27.0	328.5	6	-73454
	07 LST	25.8	21.0	26.6	25.6	27.8	25.0	26.8	27.0	25.2	25.5	24.0	27.0	307.3	6	-73454
	13 LST	26.6	23.4	29.0	27.8	30.6	28.4	30.4	30.8	28.0	29.5	28.2	26.8	339.5	6	-73454
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	20.4	16.3	17.8	17.6	23.8	21.8	25.4	27.4	21.8	22.7	22.6	21.8	259.4	6	-73454
	01 LST	19.0	14.5	17.6	17.2	22.8	22.6	23.4	26.4	20.7	20.2	19.2	18.4	242.0	6	-73454
	07 LST	18.0	13.5	17.2	16.0	21.4	19.0	21.8	22.3	20.0	20.2	18.0	18.0	225.4	6	-73454
	13 LST	14.6	11.9	14.0	13.0	19.8	18.2	23.0	21.9	16.7	20.2	16.4	12.4	202.1	6	-73454
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	0.6	0.8	1.6	0.6	0.0	0.2	0.4	0.0	0.0	0.2	1.0	0.0	5.4	6	-73454
	01 LST	0.9	1.2	1.2	0.4	0.0	0.0	0.0	0.2	0.0	0.2	0.4	1.0	5.5	6	-73454
	07 LST	0.6	0.6	1.4	0.8	0.2	0.2	0.0	0.0	0.0	0.5	0.2	0.0	4.5	6	-73454
	13 LST	1.1	1.5	2.2	1.2	0.2	0.2	0.0	0.2	0.2	0.0	0.6	0.8	8.2	6	-73454
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	12.2	13.8	18.1	21.4	24.9	21.5	22.9	23.3	19.6	18.1	16.6	15.1	227.5	6	-73454
	01 LST	11.3	11.3	17.4	19.1	18.7	17.2	19.4	17.6	17.7	16.5	17.9	9.5	193.6	6	-73454
	07 LST	8.1	8.5	18.4	20.7	21.0	19.1	19.7	19.8	18.3	15.0	17.3	8.4	194.3	6	-73454
	13 LST	15.7	15.3	19.5	19.7	22.7	19.4	21.7	21.3	19.1	23.4	20.7	16.6	235.1	6	-73454
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	12.6	9.5	9.8	8.2	8.0	6.4	5.4	7.6	11.0	15.7	12.2	14.4	120.8	6	-73454
	01 LST	14.2	10.3	15.0	14.2	11.8	12.4	12.4	13.7	16.7	16.5	13.8	16.4	167.4	6	-73454
	07 LST	11.0	8.3	8.8	10.0	8.6	8.0	8.8	7.2	9.5	12.7	9.2	12.8	114.9	6	-73454
	13 LST	11.4	8.1	8.4	7.8	6.6	5.2	4.6	5.4	9.5	14.7	9.2	9.8	99.7	6	-73454
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	26.4	21.8	26.0	27.6	28.6	26.4	29.4	29.8	25.7	28.0	26.8	26.6	323.1	6	-73454
	01 LST	26.6	21.8	26.0	25.8	28.0	26.8	28.6	29.6	24.8	25.0	25.0	26.2	314.2	6	-73454
	07 LST	23.8	20.0	24.0	24.0	26.4	23.0	25.4	26.2	22.7	24.7	23.0	25.0	288.2	6	-73454
	13 LST	25.0	22.6	27.6	26.6	28.2	25.4	29.0	29.2	24.8	28.2	26.6	25.2	318.4	6	-73454
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.8	18.6	22.8	22.8	25.8	24.6	25.6	26.6	24.2	25.7	23.6	23.2	287.3	6	-73454
	01 LST	25.0	17.7	23.4	23.8	23.8	24.2	26.2	27.6	23.7	24.2	24.0	24.2	287.8	6	-73454
	07 LST	21.2	17.8	22.8	23.0	24.2	20.8	24.6	25.1	20.5	22.8	19.8	23.2	265.0	6	-73454
	13 LST	21.6	19.7	21.0	21.0	24.0	22.2	24.4	25.1	22.2	25.7	22.8	22.6	272.3	6	-73454
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.8	16.5	20.2	21.4	23.8	21.6	22.2	25.0	22.7	24.7	22.6	20.0	261.5	6	-73454
	01 LST	22.4	15.5	22.4	21.0	22.0	22.2	24.6	26.2	23.0	22.5	21.6	21.6	265.0	6	-73454
	07 LST	19.2	16.9	20.8	20.0	21.2	19.0	22.8	23.3	18.8	21.2	18.4	21.2	240.8	6	-73454
	13 LST	20.8	17.3	19.6	18.4	22.0	20.8	22.6	23.7	20.7	24.7	20.2	21.8	252.6	6	-73454

NORFOLK, VIRGINIA
STA NO. 72308

LAT: 3653N LONG: 07612W ELEVATION(FT) 00026

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. ORS
ABS MAX TMP (F)	80	82	92	96	98	103	104	105	100	95	87	79	103	89	-613
MEAN MAX TMP (F)	50	51	58	67	76	84	87	85	80	70	60	51	68	85	-113
MEAN MIN TMP (F)	34	35	40	49	58	66	71	70	66	55	45	37	52	85	-113
ABS MIN TMP (F)	5	2	14	23	36	49	57	56	40	31	17	5	2	89	-613
MEAN NO DYS TMP = DR GTR 90(F)	0.0	0.0	0.0	0.4	1.4	7.8	14.0	8.4	2.9	0.2	0.0	0.0	35.1	12	4191
MEAN NO DYS TMP = DR LES 32(F)	14.2	11.0	5.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	2.9	14.4	47.8	12	4191
MEAN NO DYS TMP = DR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12	4191
MEAN DEW PT TMP (F)	32	33	37	46	55	63	68	69	63	53	42	32	49	11	92014
MEAN REL HUM (PCT)	71	70	67	66	72	72	73	77	76	75	71	70	72	11	92014
MEAN PRESS ALT (FT)	-145	-117	-78	-58	-64	-54	-74	-74	-101	-126	-141	-136	-96	0	-50
MEAN PRECIP (IN)	3.14	3.31	3.74	3.28	3.68	4.07	5.76	5.37	3.76	3.05	2.59	3.16	44.9	90	-113
MEAN SNOW FALL (IN)	2.4	1.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.6	6.8	20	-113
MEAN NO DYS PRCP = DR GTR 0.1 IN	6.4	6.6	6.7	6.3	6.6	6.9	8.5	8.1	6.0	5.1	4.4	6.4	78.0	90	-29
MEAN NO DYS SNFL = DR GTR 1.5 IN	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	10	3634
MEAN NO DYS W/MOOR VSBY LES 1/2 MI	2.4	2.8	1.5	1.4	2.6	1.7	0.9	1.5	1.8	3.2	2.7	2.8	25.3	11	3835
MEAN NO DYS TSTMS	0.0	1.0	2.0	3.0	5.0	7.0	9.0	7.0	3.0	1.0	0.0	0.0	38.0	67	-24
P FREQ WND SPD = DR GTR 17 KTS	11.3	12.6	13.3	10.2	4.1	2.5	1.8	3.5	5.7	8.9	7.3	8.3	7.5	11	92013
P FREQ WND SPD = DR GTR 28 KTS	0.3	0.3	0.5	0.3	0.0	0.0	0.0	0.4	0.7	0.4	0.1	0.1	0.3	11	92013
P FREQ LES 5000 FT A/O LES 5 MI	33.4	33.1	30.2	25.4	26.7	26.0	22.5	30.8	29.2	37.4	29.6	30.1	29.5	11	92009
P FREQ LES 1500 FT A/O LES 3 MI															
FOR 00-02 LST	17.1	17.5	16.8	12.9	15.6	13.2	4.6	13.3	11.1	19.6	13.2	13.1	14.0	11	11502
03-05 LST	16.8	18.9	17.5	13.1	18.4	16.5	11.4	17.9	16.5	22.2	16.1	14.1	16.6	11	11498
06-08 LST	20.3	23.4	19.5	15.9	19.7	19.3	13.9	23.7	22.1	27.7	18.9	20.5	20.4	11	11504
09-11 LST	19.7	19.1	15.1	10.0	16.0	9.9	5.8	11.4	11.7	17.9	16.0	18.9	14.3	11	11502
12-14 LST	14.5	15.2	12.3	8.3	11.1	6.3	2.5	6.5	8.4	15.4	9.4	14.5	10.4	11	11500
15-17 LST	12.2	17.3	12.1	8.7	9.5	8.3	3.0	6.4	8.6	14.6	10.8	13.2	10.4	11	11502
18-20 LST	14.6	16.0	11.3	8.8	10.9	7.6	2.6	7.8	8.7	12.6	9.3	12.3	10.2	11	11501
21-23 LST	15.5	15.8	13.1	10.1	13.6	9.0	2.6	9.0	9.6	16.0	10.9	12.5	11.5	11	11500
P FREQ LES 300 FT A/O LES 1 MI															
FOR 00-02 LST	3.9	4.3	2.5	2.3	5.3	1.9	0.4	1.4	1.9	3.4	4.2	3.8	2.9	11	11502
03-05 LST	4.6	5.6	2.8	3.8	5.4	3.2	3.0	3.5	4.6	5.9	5.3	4.8	4.4	11	11498
06-08 LST	4.0	7.2	3.1	3.2	3.0	1.9	1.3	2.4	4.2	5.6	4.9	4.8	3.8	11	11504
09-11 LST	1.9	3.2	2.0	0.3	0.5	0.1	0.0	0.2	0.3	0.9	2.3	3.0	1.2	11	11502
12-14 LST	2.2	1.9	0.9	0.4	0.2	0.0	0.0	0.1	0.0	0.7	0.0	2.2	0.7	11	11500
15-17 LST	3.4	2.6	1.8	0.8	0.9	0.2	0.3	0.3	0.4	1.1	0.8	2.1	1.2	11	11502
18-20 LST	2.9	3.4	2.0	1.6	1.8	0.0	0.3	0.2	0.3	0.9	1.1	2.3	1.4	11	11501
21-23 LST	4.1	3.0	2.0	1.9	4.2	1.4	0.1	0.2	0.6	2.5	1.8	3.7	2.1	11	11500

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NORFOLK, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PQR (YRS)	NO. OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.2	24.1	27.9	28.0	28.5	28.5	30.5	29.5	28.1	28.8	27.9	27.9	336.9	11	3835
	01 LST	26.8	24.2	26.8	26.5	26.9	27.3	29.7	28.2	26.9	26.6	27.0	27.3	324.2	11	3835
	07 LST	25.1	21.9	26.2	26.0	25.9	25.7	28.2	24.9	23.6	23.1	24.4	25.1	300.1	11	3835
	13 LST	27.2	24.1	28.3	28.7	28.9	29.1	30.4	29.9	28.4	27.7	27.9	27.0	337.6	11	3835
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	16.2	14.8	16.6	15.3	21.1	22.4	25.0	23.6	22.0	18.5	19.5	17.1	232.1	11	3835
	01 LST	14.6	12.2	14.5	15.8	18.6	21.3	23.6	22.2	20.1	16.9	15.8	16.3	211.9	11	3835
	07 LST	11.8	10.9	11.5	12.5	14.1	16.3	18.9	16.5	14.7	12.1	14.3	14.9	168.5	11	3835
	13 LST	8.8	7.1	7.2	7.9	12.1	13.6	15.8	15.4	12.5	11.5	9.8	9.7	131.4	11	3835
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	2.0	2.4	2.7	1.7	0.3	0.3	0.5	0.7	0.8	2.1	1.0	2.0	16.5	11	3696
	01 LST	2.4	2.3	2.4	1.6	0.2	0.2	0.2	0.3	2.0	2.0	1.8	2.0	17.4	11	3686
	07 LST	2.6	3.3	3.3	1.9	1.6	0.9	0.4	0.9	1.8	2.5	1.4	1.8	22.4	11	3703
	13 LST	5.2	5.7	6.1	5.8	1.6	0.8	1.4	0.9	1.1	3.1	2.4	3.7	37.8	11	3719
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	14.9	14.0	16.1	16.6	18.2	19.2	19.7	19.8	17.1	15.8	16.7	13.4	201.5	11	3696
	01 LST	12.1	11.9	13.8	15.8	16.1	16.2	17.1	16.1	14.0	15.6	15.7	12.6	177.0	11	3686
	07 LST	10.3	10.7	13.2	14.5	15.8	15.9	17.6	17.3	14.7	14.1	15.6	11.7	171.4	11	3703
	13 LST	11.4	10.2	10.5	10.7	15.3	14.7	12.6	15.3	14.3	14.9	12.5	12.4	154.8	11	3719
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	10.8	9.9	11.2	10.6	8.9	9.2	9.3	9.8	11.4	13.8	12.3	12.5	129.7	11	3835
	01 LST	12.2	12.3	12.6	12.9	12.8	13.0	13.1	11.9	13.7	14.4	14.3	13.7	156.9	11	3835
	07 LST	8.3	8.1	8.4	9.7	9.3	10.1	10.6	8.0	8.3	10.4	10.0	9.1	110.3	11	3835
	13 LST	9.3	8.5	8.6	9.6	9.3	9.4	8.2	7.8	8.0	11.4	10.8	10.6	111.5	11	3835
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.5	22.8	26.6	27.1	27.0	27.3	29.8	27.6	26.7	25.4	26.4	26.4	318.6	11	3835
	01 LST	24.6	22.1	25.0	25.0	25.1	25.4	29.0	25.0	25.4	23.9	25.3	26.4	303.2	11	3835
	07 LST	23.4	20.9	23.6	24.6	24.3	23.6	25.9	23.2	21.9	21.5	23.3	24.3	280.5	11	3835
	13 LST	26.1	22.2	26.3	26.9	26.7	27.1	29.5	27.3	26.4	24.9	26.4	26.2	316.0	11	3835
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	22.1	20.2	23.2	23.6	24.3	23.9	27.1	25.5	24.9	23.2	24.3	23.6	285.9	11	3835
	01 LST	21.2	19.3	21.9	22.9	23.1	24.3	27.8	24.4	23.3	21.2	22.8	23.9	276.1	11	3835
	07 LST	20.8	18.5	21.3	22.4	22.5	22.5	25.1	21.9	19.7	18.5	20.5	21.1	254.6	11	3835
	13 LST	23.8	20.6	21.9	21.5	22.8	22.9	25.5	23.5	22.1	22.1	24.2	23.2	274.1	11	3835
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.2	17.8	20.4	21.4	22.8	23.0	25.4	23.8	23.5	21.1	21.8	21.7	262.9	11	3835
	01 LST	19.9	17.4	19.4	20.0	21.4	23.1	26.4	22.5	22.3	19.7	20.9	22.0	255.0	11	3835
	07 LST	18.6	16.3	18.8	19.3	20.0	20.8	23.1	20.3	18.3	16.7	18.2	19.8	230.2	11	3835
	13 LST	21.0	18.5	19.8	19.4	20.9	21.6	24.2	22.1	20.8	20.4	22.4	21.2	252.3	11	3835

NORFOLK/NAS EAST, VIRGINIA

STA NO. 73673

LAT: 3656N

LONG: 07618W

ELEVATION(FT) 00031

PARAMETER DESCRIPTION

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. UBS
ABS MAX TMP (F)	77	78	84	92	93	101	100	99	100	93	84	78	101	13	4743
MEAN MAX TMP (F)	50	52	56	68	76	84	88	86	80	70	61	51	69	13	4743
MEAN MIN TMP (F)	36	37	41	51	60	69	73	73	68	58	46	37	54	13	4743
ABS MIN TMP (F)	17	12	22	30	40	54	61	63	52	35	21	17	12	13	4743
MEAN NO DYS TMP = DR GTR 90(F)	0.0	0.0	0.0	0.5	1.9	7.9	13.1	9.4	3.3	0.1	0.0	0.0	36.2	13	4743
MEAN NO DYS TMP = DR LES 32(F)	10.0	7.0	4.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	9.3	32.2	13	4743
MEAN NO DYS TMP = DR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13	4743
MEAN DEW PT TMP (F)	32	34	37	46	56	64	69	69	64	54	42	33	50	12	105063
MEAN REL HUM (PCT)	69	70	67	64	70	69	71	74	73	73	69	69	70	12	105063
MEAN PRESS ALT (FT)	-157	-128	-90	-70	-75	-65	-86	-85	-112	-137	-153	-148	-108	0	-50
MEAN PRECIP (IN)	2.51	3.24	3.31	2.63	3.30	2.58	4.35	5.60	3.30	2.39	2.65	2.68	38.5	10	3649
MEAN SNOW FALL (IN)	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.8	4.0	10	3650
MEAN NO DYS PRCP = DR GTR 0.1 IN	5.6	6.7	8.1	6.1	6.6	5.3	7.0	7.7	4.8	4.9	4.8	5.6	73.2	10	3649
MEAN NO DYS SNFL = DR GTR 1.5 IN	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	10	3650
MEAN NO DYS W/O CUR VSBY LES 1/2 MI	2.5	3.1	1.9	1.3	2.0	1.1	0.9	0.7	1.1	2.1	2.7	2.9	22.3	12	4380
MEAN NO DYS TSTMS	0.3	0.4	1.8	2.7	5.3	5.7	8.1	7.1	2.8	1.3	0.5	0.1	36.1	13	4743
P FREQ WND SPD = DR GTR 17 KTS	11.2	12.5	12.7	10.5	5.1	2.7	2.6	3.7	5.3	8.4	8.1	7.7	7.5	12	105049
P FREQ WND SPD = DR GTR 28 KTS	0.3	0.3	0.4	0.2	0.1	0.0	0.0	0.2	0.2	0.5	0.3	0.3	0.2	12	105049
P FREQ LES 5000 FT A/D LES 5 MI	31.0	31.9	29.7	26.2	25.9	23.9	20.1	30.2	27.6	33.7	29.4	27.0	28.1	12	105118
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	16.3	14.7	16.5	12.0	12.9	11.4	4.5	12.0	9.4	16.6	14.7	13.1	12.8	12	13142
03-05 LST	15.8	17.1	16.7	14.0	15.7	13.0	9.1	15.4	14.2	18.5	16.3	14.2	15.0	12	13143
06-08 LST	19.0	23.3	19.4	15.4	18.7	14.7	12.5	20.0	18.9	24.8	19.1	20.1	18.8	12	13143
09-11 LST	18.6	19.0	15.1	11.5	14.8	10.8	6.7	13.2	12.4	16.7	14.2	17.5	14.2	12	13143
12-14 LST	14.8	15.4	13.4	8.6	10.6	5.8	4.6	6.9	9.4	13.4	11.0	13.7	10.6	12	13143
15-17 LST	14.4	16.7	13.2	8.9	9.2	7.0	3.0	7.0	9.3	13.2	12.7	14.0	10.7	12	13142
18-20 LST	15.1	16.1	12.7	8.9	10.4	7.6	4.9	10.3	9.5	12.2	11.2	11.8	10.9	12	13140
21-23 LST	16.8	15.1	13.7	10.3	12.0	8.4	4.0	9.0	8.4	15.6	11.0	11.3	11.3	12	13140
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.8	4.5	2.9	2.2	3.9	1.9	0.3	0.4	0.9	2.6	3.7	4.1	2.6	12	13142
03-05 LST	3.6	4.6	3.6	3.0	4.7	2.1	1.2	2.2	2.5	3.9	5.5	4.7	3.5	12	13143
06-08 LST	3.7	6.4	4.0	2.8	2.8	1.6	0.4	2.0	2.9	5.1	5.6	5.2	3.5	12	13143
09-11 LST	3.0	4.4	2.2	0.6	1.0	0.2	0.0	0.2	0.3	1.0	1.8	3.9	1.6	12	13143
12-14 LST	2.0	1.7	1.6	0.6	0.6	0.1	0.2	0.3	0.3	0.3	0.8	2.9	1.0	12	13143
15-17 LST	3.0	4.1	2.2	1.0	1.0	0.5	0.4	0.4	0.3	0.9	1.6	3.3	1.6	12	13142
18-20 LST	2.9	4.4	3.1	1.7	1.3	0.0	0.3	0.3	0.6	1.1	1.4	2.5	1.6	12	13140
21-23 LST	3.6	3.2	3.2	1.4	3.5	0.7	0.3	0.1	0.5	1.3	1.9	3.1	1.9	12	13140

A-43

NORFOLK/NAS EAST, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.2	24.5	27.7	27.5	28.3	28.7	30.1	28.6	27.9	28.7	27.2	27.7	334.1	12	4381
	01 LST	26.7	24.7	26.7	27.0	27.8	27.7	29.9	28.4	27.8	27.0	26.4	27.3	327.4	12	4382
	07 LST	25.3	21.6	25.6	26.0	26.2	26.6	28.2	25.9	25.1	24.6	24.3	24.9	304.3	12	4381
	13 LST	27.2	24.1	27.8	28.8	28.6	29.0	30.3	30.2	28.1	27.7	27.2	27.7	336.7	12	4381
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	15.6	13.9	15.2	13.1	17.7	19.0	20.1	20.2	19.6	18.5	17.1	16.4	206.4	12	4381
	01 LST	13.9	11.0	13.0	13.8	18.1	18.8	21.9	20.4	18.7	16.0	14.1	15.6	195.3	12	4382
	07 LST	11.6	9.6	10.7	12.3	14.2	15.5	18.7	14.8	15.3	13.2	14.4	14.4	164.7	12	4381
	13 LST	12.3	8.4	7.6	9.4	12.5	15.0	17.1	15.8	13.6	12.4	13.1	12.5	149.7	12	4381
SFC WND = GTR 17 KTS. AND NO PRECIP.	19 LST	2.2	2.2	2.6	2.5	1.2	0.7	0.8	0.7	0.8	2.4	2.0	1.6	19.7	12	4265
	01 LST	2.9	2.9	3.0	2.0	1.1	0.7	0.7	0.3	1.7	2.5	1.7	2.1	21.6	12	4262
	07 LST	3.0	2.6	2.1	2.2	1.7	0.5	0.3	1.2	2.0	1.9	2.0	2.4	22.9	12	4255
	13 LST	4.8	4.1	5.3	5.1	1.8	1.0	1.4	1.0	1.7	2.9	3.0	3.1	35.2	12	4269
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	13.1	14.3	16.3	16.2	20.6	19.5	22.0	20.2	18.8	16.6	15.7	13.9	207.2	12	4265
	01 LST	13.0	11.6	14.0	16.5	18.4	18.7	19.5	19.9	16.6	15.8	15.5	13.4	192.9	12	4261
	07 LST	11.2	10.7	13.5	16.7	18.3	18.1	21.5	20.5	17.6	15.2	17.0	13.8	194.1	12	4255
	13 LST	13.3	12.5	12.3	13.1	17.2	15.6	14.8	16.2	16.9	16.5	15.9	16.1	180.4	12	4269
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	10.8	9.1	9.6	7.6	6.6	5.8	5.6	7.2	9.0	12.8	12.5	12.2	108.8	12	4381
	01 LST	12.2	11.5	12.3	12.7	12.0	12.7	12.8	11.5	14.2	14.8	13.4	15.5	155.6	12	4382
	07 LST	7.7	6.4	8.2	9.1	8.0	8.7	8.4	7.0	6.5	9.8	9.3	8.5	97.6	12	4381
	13 LST	7.8	7.4	7.3	7.1	6.4	6.0	5.0	5.8	6.2	9.6	8.7	9.5	86.8	12	4381
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.1	23.1	26.0	26.3	26.5	27.0	29.1	26.2	25.9	25.4	25.7	26.6	312.9	12	4381
	01 LST	24.5	22.6	24.9	25.3	26.1	25.6	28.7	26.3	26.6	24.2	24.8	26.1	305.7	12	4382
	07 LST	23.3	19.9	23.6	24.3	24.6	24.5	26.0	23.3	22.6	22.0	23.0	23.4	280.5	12	4381
	13 LST	25.5	22.2	24.9	26.2	26.1	26.6	27.7	26.1	24.7	24.6	25.9	26.0	306.5	12	4381
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	21.5	20.2	22.1	23.3	24.0	23.5	26.6	23.8	23.5	22.5	23.2	23.9	278.1	12	4381
	01 LST	21.7	20.0	22.3	23.0	23.8	23.7	26.9	24.6	24.5	21.8	22.1	24.4	278.8	12	4382
	07 LST	20.4	17.5	20.9	21.3	22.2	22.7	24.0	21.5	20.4	19.8	19.9	21.1	251.7	12	4381
	13 LST	23.3	19.4	21.2	21.5	21.6	22.5	24.4	22.0	21.4	21.2	22.7	23.6	264.8	12	4381
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	19.7	17.9	19.2	20.7	22.1	21.3	24.1	22.1	22.0	20.8	21.2	21.9	253.0	12	4381
	01 LST	20.2	17.7	19.7	20.6	21.6	21.8	25.2	22.5	23.4	20.4	20.1	21.9	255.1	12	4382
	07 LST	18.1	15.4	19.1	19.1	19.7	21.2	21.8	19.3	18.2	18.1	18.0	18.6	226.6	12	4381
	13 LST	20.6	17.2	19.0	19.5	20.2	21.6	23.2	20.3	20.2	20.4	20.4	20.6	243.2	12	4381

NORFOLK/NAS CHAMBERS, VIRGINIA

STA NO. 73674

LAT: 3656N

LONG: 07617W

ELEVATION(FT) 00015

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. UBS
ABS MAX TMP (F)	77	78	84	92	95	101	100	99	100	93	84	78	101	13	-73673
MEAN MAX TMP (F)	50	52	56	68	76	84	88	86	80	70	61	51	69	13	-73673
MEAN MIN TMP (F)	36	37	41	51	60	69	73	73	68	58	46	37	54	13	-73673
ABS MIN TMP (F)	17	12	22	30	40	54	61	63	52	35	21	17	12	13	-73673
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.5	1.9	7.9	13.1	9.4	3.3	0.1	0.0	0.0	36.2	13	-73673
MEAN NO DYS TMP = OR LES 32(F)	10.0	7.0	4.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	9.3	32.2	13	-73673
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13	-73673
MEAN DEW PT TMP (F)	32	34	37	46	56	64	69	69	64	54	42	33	50	12	-73673
MEAN REL HUM (PCT)	69	70	67	64	70	69	71	74	73	73	69	69	70	12	-73673
MEAN PRESS ALT (FT)	-157	-128	-90	-70	-75	-65	-86	-85	-112	-137	-153	-148	-108	0	-50
MEAN PRECIP (IN)	2.51	3.24	3.31	2.63	3.30	2.58	4.35	5.60	3.30	2.39	2.65	2.68	38.5	10	-73673
MEAN SNOW FALL (IN)	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.8	4.0	10	-73673
MEAN NO DYS PRCP = OR GTR 0.1 IN	5.6	6.7	8.1	6.1	6.6	5.3	7.0	7.7	4.8	4.9	4.8	5.6	73.2	10	-73673
MEAN NO DYS SNFL = OR GTR 1.5 IN	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	10	-73673
MEAN NO DYS W/OCUR VSBY LES 1/2 MI	2.5	3.1	1.9	1.3	2.0	1.1	0.9	0.7	1.1	2.1	2.7	2.9	22.3	12	-73673
MEAN NO DYS TSTMS	0.3	0.4	1.8	2.7	5.3	5.7	8.1	7.1	2.8	1.3	0.5	0.1	36.1	13	-73673
P FREQ WND SPD = OR GTR 17 KTS	11.2	12.5	12.7	10.5	5.1	2.7	2.6	3.7	5.3	8.4	8.1	7.7	7.5	12	-73673
P FREQ WND SPD = OR GTR 28 KTS	0.3	0.3	0.4	0.2	0.1	0.0	0.0	0.2	0.2	0.5	0.3	0.3	0.2	12	-73673
P FREQ LES 3000 FT A/D LES 5 MI	31.0	31.9	29.7	26.2	25.9	23.9	20.1	30.2	27.6	33.7	29.4	27.0	28.1	12	-73673
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	16.3	14.7	16.5	12.0	12.9	11.4	4.5	12.0	9.4	16.6	14.7	13.1	12.8	12	-73673
03-05 LST	15.8	17.1	16.7	14.0	15.7	13.0	9.1	15.4	14.2	18.5	16.3	14.2	15.0	12	-73673
06-08 LST	19.0	23.3	19.4	15.4	18.7	14.7	12.5	20.0	18.9	24.8	19.1	20.1	18.8	12	-73673
09-11 LST	18.6	19.0	15.1	11.5	14.8	10.8	6.7	13.2	12.4	16.7	14.2	17.5	14.2	12	-73673
12-14 LST	14.8	15.4	12.4	8.6	10.6	5.8	4.6	6.9	9.4	13.4	11.0	13.7	10.6	12	-73673
15-17 LST	14.4	16.7	13.2	8.9	9.2	7.0	3.0	7.0	9.3	13.2	12.7	14.0	10.7	12	-73673
18-20 LST	15.1	16.1	12.7	8.9	10.4	7.6	4.9	10.3	9.5	12.2	11.2	11.8	10.9	12	-73673
21-23 LST	16.8	15.1	13.7	10.3	12.0	8.4	4.0	9.0	8.4	15.6	11.0	11.3	11.3	12	-73673
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.8	4.5	2.9	2.2	3.9	1.9	0.3	0.4	0.9	2.6	3.7	4.1	2.6	12	-73673
03-05 LST	3.6	4.6	3.6	3.0	4.7	2.1	1.2	2.2	2.5	3.9	5.5	4.7	3.5	12	-73673
06-08 LST	3.7	6.4	4.0	2.8	2.8	1.6	0.4	2.0	2.9	5.1	5.6	5.2	3.5	12	-73673
09-11 LST	3.0	4.4	2.2	0.6	1.0	0.2	0.0	0.2	0.3	1.0	1.8	3.9	1.6	12	-73673
12-14 LST	2.0	1.7	1.6	0.6	0.6	0.1	0.2	0.3	0.3	0.3	0.8	2.9	1.0	12	-73673
15-17 LST	3.0	4.1	2.2	1.0	1.0	0.5	0.4	0.4	0.3	0.9	1.6	3.3	1.6	12	-73673
18-20 LST	2.9	4.4	3.1	1.7	1.3	0.0	0.3	0.3	0.6	1.1	1.4	2.5	1.6	12	-73673
21-23 LST	3.6	3.2	3.2	1.4	2.5	0.7	0.3	0.1	0.5	1.3	1.9	3.1	1.9	12	-73673

NORFOLK/NAS CHAMBERS, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.2	24.5	27.7	27.5	28.3	28.7	30.1	28.6	27.9	28.7	27.2	27.7	334.1	12	-73673
	01 LST	26.7	24.7	26.7	27.0	27.8	27.7	29.9	28.4	27.8	27.0	26.4	27.3	327.4	12	-73673
	07 LST	25.3	21.6	25.6	26.0	26.2	26.6	28.2	25.9	25.1	24.6	24.3	24.9	304.3	12	-73673
	13 LST	27.2	24.1	27.8	28.8	28.6	29.0	30.3	30.2	28.1	27.7	27.2	27.7	336.7	12	-73673
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	15.6	13.9	15.2	13.1	17.7	19.0	20.1	20.2	19.6	18.5	17.1	16.4	206.4	12	-73673
	01 LST	13.9	11.0	13.0	13.8	18.1	18.8	21.9	20.4	18.7	16.0	14.1	15.6	195.3	12	-73673
	07 LST	11.6	9.6	10.7	12.3	14.2	15.5	18.7	14.8	15.3	13.2	14.4	14.4	164.7	12	-73673
	13 LST	12.3	8.4	7.6	9.4	12.5	15.0	17.1	15.8	13.6	12.4	13.1	12.5	149.7	12	-73673
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	2.2	2.2	2.6	2.5	1.2	0.7	0.8	0.7	0.8	2.4	2.0	1.6	19.7	12	-73673
	01 LST	2.9	2.9	3.0	2.0	1.1	0.7	0.7	0.3	1.7	2.5	1.7	2.1	21.6	12	-73673
	07 LST	3.0	2.6	3.1	2.2	1.7	0.5	0.3	1.2	2.0	1.9	2.0	2.4	22.9	12	-73673
	13 LST	4.8	4.1	5.3	5.1	1.8	1.0	1.4	1.0	1.7	2.9	3.0	3.1	35.2	12	-73673
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	13.1	14.3	16.3	16.2	20.6	19.5	22.0	20.2	18.8	16.6	15.7	13.9	207.2	12	-73673
	01 LST	13.0	11.6	14.0	16.5	18.4	18.7	19.5	19.9	16.6	15.8	15.5	13.4	192.9	12	-73673
	07 LST	11.2	10.7	13.5	16.7	18.3	18.1	21.5	20.5	17.6	15.2	17.0	13.8	194.1	12	-73673
	13 LST	13.3	12.5	12.3	13.1	17.2	15.6	14.8	16.2	16.9	16.5	15.9	16.1	180.4	12	-73673
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	10.8	9.1	9.6	7.6	6.6	5.8	5.6	7.2	9.0	12.8	12.5	12.2	108.8	12	-73673
	01 LST	12.2	11.5	12.3	12.7	12.0	12.7	12.8	11.5	14.2	14.8	13.4	15.5	155.6	12	-73673
	07 LST	7.7	6.4	8.2	9.1	8.0	8.7	8.4	7.0	6.5	9.8	9.3	8.5	97.6	12	-73673
	13 LST	7.8	7.4	7.3	7.1	6.4	6.0	5.0	5.8	6.2	9.6	8.7	9.5	86.8	12	-73673
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.1	23.1	26.0	26.3	26.5	27.0	29.1	26.2	25.9	25.4	25.7	26.6	312.9	12	-73673
	01 LST	24.5	22.6	24.9	25.3	26.1	25.6	28.7	26.3	26.6	24.2	24.8	26.1	305.7	12	-73673
	07 LST	23.3	19.9	23.6	24.3	24.6	24.5	26.0	23.3	22.6	22.0	23.0	23.4	280.5	12	-73673
	13 LST	25.5	22.2	24.9	26.2	26.1	26.6	27.7	26.1	24.7	24.6	25.9	26.0	306.5	12	-73673
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	21.5	20.2	22.1	23.3	24.0	23.5	26.6	23.8	23.5	22.5	23.2	23.9	278.1	12	-73673
	01 LST	21.7	20.0	22.3	23.0	23.8	23.7	26.9	24.6	24.5	21.8	22.1	24.4	278.8	12	-73673
	07 LST	20.4	17.5	20.9	21.3	22.2	22.7	24.0	21.8	20.4	19.8	19.9	21.1	231.7	12	-73673
	13 LST	23.3	19.4	21.2	21.5	21.6	22.5	24.4	22.0	21.4	21.2	22.7	23.6	264.8	12	-73673
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	19.7	17.9	19.2	20.7	22.1	21.3	24.1	22.1	22.0	20.8	21.2	21.9	233.0	12	-73673
	01 LST	20.2	17.7	19.7	20.6	21.6	21.8	25.2	22.5	23.4	20.4	20.1	21.9	255.1	12	-73673
	07 LST	18.1	15.4	19.1	19.1	19.7	21.2	21.8	19.3	18.2	18.1	18.0	18.6	226.6	12	-73673
	13 LST	20.6	17.2	19.0	19.5	20.2	21.6	23.2	20.3	20.2	20.4	20.4	20.6	243.2	12	-73673

OCEANA/NAS, VIRGINIA
STA NO. 73347

LAT: 3650N LONG: 07601W ELEVATION(FT) 00020

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. JRS
ABS MAX TMP (F)	76	78	85	95	95	102	103	97	94	95	83	78	103	13	4380
MEAN MAX TMP (F)	48	51	56	68	74	82	86	84	79	69	60	51	67	13	4380
MEAN MIN TMP (F)	33	35	40	49	58	66	70	70	65	54	44	35	52	13	4380
ABS MIN TMP (F)	9	7	21	32	35	50	56	53	49	30	23	10	7	13	4380
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.5	0.9	4.9	9.3	6.6	1.8	0.2	0.0	0.0	24.2	13	4380
MEAN NO DYS TMP = OR LES 32(F)	15.7	11.4	4.9	0.1	0.0	0.0	0.0	0.0	0.0	0.2	2.3	14.1	48.7	13	4380
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13	4380
MEAN DEW PT TMP (F)	32	34	37	47	56	64	68	69	63	53	42	34	50	13	105091
MEAN REL HUM (PCT)	74	73	69	68	73	74	76	78	77	75	73	73	74	13	105091
MEAN PRESS ALT (FT)	-150	-122	-83	-64	-70	-60	-80	-80	-107	-131	-144	-141	-102	0	-30
MEAN PRECIP (IN)	3.36	4.15	3.95	2.97	3.63	2.99	5.13	7.23	4.21	4.14	3.17	3.21	48.1	10	3650
MEAN SNOW FALL (IN)	1.7	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	4.3	10	3652
MEAN NO DYS PRCP = OR GTR 0.1 IN	6.0	6.7	7.2	5.7	7.2	4.4	7.8	8.3	4.7	5.4	4.6	5.5	73.5	10	3650
MEAN NO DYS SNFL = OR GTR 1.5 IN	0.6	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.3	10	3652
MEAN NO DYS W/OCCUR VSBY LES 1/2 MI	3.4	4.1	2.3	1.7	2.5	1.8	1.4	1.6	2.6	2.7	3.2	4.6	31.9	13	4380
MEAN NO DYS TSTMS	0.2	0.6	1.6	2.6	5.7	5.5	9.3	7.8	2.6	1.4	0.4	0.3	38.0	13	4380
P FREQ WND SPD = OR GTR 17 KTS	11.7	11.1	10.8	8.0	3.0	2.3	1.2	2.2	3.6	6.5	5.7	8.3	6.2	13	105032
P FREQ WND SPD = OR GTR 28 KTS	0.4	0.2	0.5	0.3	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.2	13	105032
P FREQ LES 5000 FT A/D LES 5 MI	33.8	33.4	31.1	25.7	27.6	30.8	25.8	33.6	32.1	34.8	33.6	28.4	30.9	13	105095
P FREQ LES 1500 FT A/D LES 3 MI															
FDR 00-02 LST	16.7	19.0	15.9	12.9	13.5	13.1	6.4	12.7	15.1	16.6	17.7	14.9	14.5	13	13139
03-05 LST	17.9	19.5	17.8	14.5	16.0	18.8	15.2	19.1	21.4	21.7	19.2	15.6	18.1	13	13137
06-08 LST	22.8	22.2	21.1	16.1	17.7	19.4	16.4	21.4	24.4	28.1	23.3	20.3	21.1	13	13145
09-11 LST	20.0	18.2	16.2	11.9	12.2	14.2	9.5	13.1	15.7	15.7	15.3	18.0	15.0	13	13141
12-14 LST	16.6	16.6	14.1	9.4	10.4	9.0	4.9	8.5	13.0	13.7	13.1	14.0	11.9	13	13147
15-17 LST	16.3	19.1	13.8	9.1	9.1	11.1	5.8	9.1	11.9	14.0	15.5	14.4	12.4	13	13146
18-20 LST	16.3	19.7	14.0	9.1	10.6	11.5	5.1	12.3	10.8	14.3	14.0	13.3	12.6	13	13138
21-23 LST	16.2	18.3	14.6	9.4	11.5	11.4	3.9	9.9	10.6	14.2	14.1	12.8	12.2	13	13140
P FREQ LES 300 FT A/D LES 1 MI															
FDR 00-02 LST	6.2	7.9	4.8	3.2	4.2	3.0	0.9	1.4	2.5	3.9	6.0	5.9	4.2	13	13139
03-05 LST	6.1	6.8	3.5	3.9	5.4	4.8	3.6	4.5	6.2	7.0	6.4	7.0	5.4	13	13137
06-08 LST	6.1	6.3	3.9	3.1	3.6	2.2	2.0	3.5	6.3	6.8	6.6	7.3	4.8	13	13145
09-11 LST	3.6	4.2	2.4	1.2	0.7	0.4	0.2	0.3	1.1	0.6	1.9	2.9	1.6	13	13141
12-14 LST	3.4	4.2	1.6	0.4	1.1	0.2	0.3	0.5	0.6	0.9	1.4	2.4	1.4	13	13147
15-17 LST	3.6	4.3	2.8	1.6	1.2	0.5	0.8	0.5	1.1	1.3	2.7	3.4	2.0	13	13146
18-20 LST	3.7	3.9	3.6	2.9	2.2	1.2	0.4	0.3	1.7	2.1	2.1	4.1	2.4	13	13138
21-23 LST	5.8	4.0	3.9	1.9	3.1	1.8	0.1	0.3	0.8	2.1	3.1	4.3	2.6	13	13140

A-47

OCEANA/NAS, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. Q85
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	26.7	23.2	27.0	27.5	28.2	26.6	29.7	27.5	27.2	27.1	26.2	27.2	324.1	13	4381
	01 LST	26.6	23.6	26.9	26.9	27.7	27.0	29.1	27.5	26.2	26.7	25.5	26.4	320.1	13	4380
	07 LST	24.1	22.5	25.4	25.8	26.8	25.2	26.3	25.6	23.3	22.6	23.5	25.1	296.2	13	4383
	13 LST	26.6	23.7	27.7	28.1	28.5	28.5	30.2	29.3	27.6	28.1	26.7	27.4	332.4	13	4383
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	18.4	15.5	18.5	19.9	23.3	22.1	26.2	23.9	22.3	21.0	20.1	19.6	250.8	13	4381
	01 LST	17.2	13.0	17.5	16.7	21.5	22.4	25.4	23.7	21.3	20.0	18.7	17.8	235.2	13	4380
	07 LST	15.2	13.0	14.6	14.5	16.8	17.3	19.2	19.1	16.4	15.7	16.3	16.6	194.7	13	4383
	13 LST	10.6	8.4	7.7	9.4	12.7	15.0	17.7	15.8	13.8	12.8	11.2	10.9	146.0	13	4383
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	2.7	2.0	2.0	1.3	0.5	0.1	0.2	0.3	0.2	1.1	1.3	1.6	13.3	13	4225
	01 LST	3.5	1.8	2.1	1.3	0.5	0.3	0.1	0.1	0.8	1.3	1.4	1.8	15.0	13	4237
	07 LST	2.4	2.5	2.7	2.0	0.7	0.3	0.2	0.6	1.1	1.6	1.2	1.9	17.2	13	4237
	13 LST	4.9	5.0	4.7	4.4	2.4	0.9	0.6	0.7	1.4	2.9	2.9	4.2	35.0	13	4265
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	13.0	14.0	17.1	20.6	22.5	21.4	22.9	21.9	18.4	16.4	16.3	15.1	219.6	13	4225
	01 LST	13.3	11.4	15.7	18.6	18.0	18.2	20.1	17.4	15.5	15.3	16.5	14.0	194.0	13	4237
	07 LST	11.4	10.3	15.2	17.6	19.4	19.6	20.8	19.1	15.4	14.9	15.5	13.1	192.3	13	4237
	13 LST	12.2	11.6	12.9	14.3	18.5	18.2	17.2	17.6	18.4	17.2	14.9	14.0	187.0	13	4265
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	10.5	8.6	9.8	9.3	5.6	5.6	5.2	6.4	9.3	12.7	11.1	11.7	105.8	13	4381
	01 LST	11.3	10.5	13.4	12.9	11.3	11.6	12.4	10.6	13.8	14.2	13.5	13.4	148.9	13	4380
	07 LST	7.9	6.7	7.8	9.1	7.4	8.4	8.5	6.5	6.6	9.3	8.5	8.0	94.7	13	4383
	13 LST	8.2	7.1	7.2	7.2	5.8	6.2	4.4	4.7	5.8	11.0	9.0	9.1	85.7	13	4383
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	24.7	22.1	25.6	26.4	27.2	25.3	28.9	25.5	25.1	24.5	24.4	25.6	305.3	13	4381
	01 LST	24.6	21.9	25.2	25.0	25.9	25.5	28.1	26.1	24.3	24.6	23.4	25.3	299.9	13	4380
	07 LST	21.8	21.0	23.5	24.7	24.7	23.4	24.9	23.3	21.1	20.3	21.2	23.6	273.5	13	4383
	13 LST	25.0	22.0	24.5	25.7	25.6	25.7	27.0	24.5	23.4	24.9	24.9	26.2	299.4	13	4383
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	21.9	19.2	21.5	22.8	24.4	22.8	22.6	23.9	22.7	21.9	21.9	23.2	272.8	13	4381
	01 LST	21.1	19.4	22.7	22.2	24.1	23.4	26.5	24.1	22.5	21.9	20.6	23.1	271.6	13	4380
	07 LST	18.7	18.1	21.2	22.7	22.5	22.5	24.0	22.2	19.0	18.2	18.0	21.3	248.4	13	4383
	13 LST	22.2	19.7	20.6	20.7	20.8	20.6	21.9	21.4	19.7	22.3	21.7	23.7	255.3	13	4383
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	19.8	17.6	19.3	21.6	22.1	21.1	24.6	22.2	21.2	20.7	20.0	21.3	251.5	13	4381
	01 LST	19.2	17.2	21.0	20.4	21.8	21.5	24.6	21.9	20.7	20.3	19.3	21.4	249.3	13	4380
	07 LST	16.2	16.3	19.2	19.7	19.5	20.7	21.5	19.8	17.3	16.2	16.2	19.6	222.2	13	4383
	13 LST	19.0	17.5	18.7	19.1	19.9	19.7	21.3	19.4	18.3	20.4	19.4	21.1	233.8	13	4383

PETERSBURG MUNICIPAL, VIRGINIA

STA NO. 73664

LAT: 3711N

LONG: 07731W

ELEVATION(FT) 00190

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
ABS MAX TMP (F)	80	82	94	96	98	104	105	107	103	99	86	78	107	49	-72401
MEAN MAX TMP (F)	48	49	59	68	77	84	88	85	81	71	59	49	68	50	-72401
MEAN MIN TMP (F)	30	30	38	46	55	64	68	67	61	49	39	31	48	50	-72401
ABS MIN TMP (F)	-1	-3	11	19	31	43	52	49	39	21	14	-2	-3	49	-72401
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	0.9	3.1	10.4	15.5	10.8	4.7	0.7	0.0	0.0	46.1	14	-72401
MEAN NO DYS TMP = OR LES 32(F)	20.6	16.1	11.2	2.2	0.1	0.0	0.0	0.0	0.0	1.1	10.6	21.3	83.2	14	-72401
MEAN NO DYS TMP = OR LES 0(F)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	14	-72401
MEAN DEW PT TMP (F)	28	29	32	43	54	62	67	67	61	50	37	29	47	12	-72401
MEAN REL HUM (PCT)	73	69	66	63	63	67	68	70	70	67	68	72	68	13	-72401
MEAN PRESS ALT (FT)	9	39	79	102	99	108	88	88	60	31	15	15	61	0	-50
MEAN PRECIP (IN)	3.10	3.10	3.70	3.50	3.70	3.80	4.50	4.50	3.20	2.90	2.30	3.10	41.4	59	-72401
MEAN SNOW FALL (IN)	4.3	2.5	2.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.8	12.0	23	-72401
MEAN NO DYS PRCP = OR GTR 0.1 IN	6.3	6.3	6.6	6.5	6.6	6.6	7.3	7.3	5.2	4.9	4.0	6.3	73.9	59	-29
MEAN NO DYS SNFL = OR GTR 1.5 IN	1.5	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	3.5	11	-72401
MEAN NO DYS W/DCUR VSBY LES 1/2 MI	2.4	2.7	1.6	1.5	2.0	1.3	1.5	2.7	3.6	3.8	2.6	2.6	28.3	12	-72401
MEAN NO DYS TSTMS	0.0	0.0	2.0	3.0	6.0	8.0	10.0	7.0	3.0	1.0	0.0	0.0	40.0	54	-72401
P FREQ WND SPD = OR GTR 17 KTS	1.7	2.1	2.3	2.0	0.5	0.3	0.2	0.5	0.8	0.6	0.8	1.0	1.1	12	-72401
P FREQ WND SPD = OR GTR 28 KTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12	-72401
P FREQ LES 5000 FT A/D LES 5 MI	29.1	28.4	27.0	22.4	25.9	22.9	20.7	28.1	27.3	28.5	26.4	24.2	25.9	12	-72401
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	17.1	17.9	15.1	12.2	15.7	9.2	6.9	12.3	14.5	12.8	13.7	13.8	13.4	12	-72401
03-05 LST	18.4	19.9	17.6	16.0	21.6	16.3	13.7	22.0	22.2	20.7	16.9	15.8	18.4	12	-72401
06-08 LST	17.5	21.8	17.6	16.7	20.0	17.3	15.8	27.8	25.1	28.0	19.1	16.7	20.3	12	-72401
09-11 LST	17.0	18.9	15.7	10.4	12.7	10.7	8.0	16.2	14.5	18.6	15.4	15.9	14.5	12	-72401
12-14 LST	15.1	14.7	11.7	7.5	8.0	5.1	4.3	6.9	7.2	10.5	9.7	13.2	9.5	12	-72401
15-17 LST	12.8	14.2	10.5	6.2	7.3	4.7	3.0	4.1	6.1	9.3	8.2	11.3	8.1	12	-72401
18-20 LST	13.5	14.2	11.7	7.3	8.2	5.6	2.8	5.2	7.8	9.1	8.3	11.9	8.8	12	-72401
21-23 LST	15.9	15.1	13.5	8.7	10.6	5.8	3.3	6.5	9.0	10.1	11.1	13.4	10.3	12	-72401
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.9	6.0	2.7	1.9	4.8	1.2	0.7	2.1	3.7	2.9	4.2	4.6	3.2	12	-72401
03-05 LST	5.6	6.9	3.6	4.0	6.3	4.0	2.5	7.5	8.7	6.8	6.8	6.1	5.7	12	-72401
06-08 LST	4.7	5.8	3.0	3.3	3.3	3.1	2.2	5.6	7.8	9.9	6.6	5.5	5.1	12	-72401
09-11 LST	2.5	3.6	2.2	0.5	0.4	0.1	0.1	0.2	0.6	1.3	2.4	3.6	1.5	12	-72401
12-14 LST	1.6	2.1	0.7	0.1	0.3	0.1	0.0	0.2	0.1	0.4	0.2	2.4	0.7	12	-72401
15-17 LST	2.1	1.7	0.9	0.3	0.2	0.2	0.1	0.2	0.0	0.3	0.7	2.1	0.7	12	-72401
18-20 LST	2.5	2.5	1.5	0.6	0.9	0.1	0.3	0.1	0.3	0.5	1.1	3.8	1.2	12	-72401
21-23 LST	3.7	4.3	2.1	0.6	1.7	0.2	0.3	0.5	0.7	1.7	2.0	3.6	1.8	12	-72401

PETERSBURG MUNICIPAL, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NJ, DBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.2	24.4	28.0	28.4	29.1	28.6	30.2	29.6	28.0	29.1	28.1	28.0	338.7	12	-72401
	01 LST	26.2	23.5	27.2	27.0	26.3	27.9	29.4	28.0	26.0	27.5	26.3	27.3	322.6	12	-72401
	07 LST	26.5	22.3	26.3	25.4	25.3	25.1	26.7	22.6	22.7	27.4	25.1	26.4	296.8	12	-72401
	13 LST	27.1	24.3	28.1	28.3	28.7	29.1	30.2	29.6	28.2	28.3	27.8	27.3	337.2	12	-72401
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	22.1	19.4	19.7	18.9	24.5	25.1	27.4	27.9	25.7	26.2	24.2	23.5	284.6	12	-72401
	01 LST	21.5	19.4	22.2	21.4	23.3	25.6	28.1	26.6	24.3	24.1	23.0	23.6	283.1	12	-72401
	07 LST	21.9	17.5	20.2	19.7	19.5	22.1	23.8	21.2	20.8	20.5	22.1	23.0	252.3	12	-72401
	13 LST	14.3	13.3	13.9	12.5	17.5	18.9	22.0	23.5	19.2	18.3	16.1	16.7	206.2	12	-72401
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	0.2	0.3	0.4	0.3	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.1	2.1	12	-72401
	01 LST	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	1.8	12	-72401
	07 LST	0.2	0.3	0.4	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	1.5	12	-72401
	13 LST	1.4	1.2	1.4	1.2	0.2	0.1	0.1	0.0	0.2	0.3	0.2	0.9	7.2	12	-72401
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	16.3	16.8	21.1	20.1	22.4	22.5	21.7	22.4	21.2	21.4	19.7	16.6	242.2	12	-72401
	01 LST	12.2	13.1	18.1	20.0	20.5	20.2	21.3	20.4	18.8	19.6	18.2	12.5	214.9	12	-72401
	07 LST	10.6	10.8	15.6	21.6	21.2	23.2	22.4	21.6	19.8	20.4	16.0	10.9	214.1	12	-72401
	13 LST	15.4	16.7	16.6	16.0	20.9	17.2	15.2	19.8	20.9	22.7	20.7	19.6	221.7	12	-72401
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	10.7	10.5	10.8	8.3	7.8	7.9	7.2	9.6	12.2	13.6	12.6	13.2	124.4	12	-72401
	01 LST	13.1	11.3	13.1	13.7	12.2	13.7	13.1	12.8	15.2	16.7	15.5	14.9	165.3	12	-72401
	07 LST	9.5	8.4	11.3	9.3	9.3	11.3	9.7	9.9	10.0	11.5	10.9	10.4	121.5	12	-72401
	13 LST	8.5	8.1	7.4	6.7	4.7	4.1	4.3	4.4	7.6	11.8	9.3	9.8	86.9	12	-72401
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.8	23.7	26.7	27.0	27.7	27.3	29.6	28.7	26.6	27.7	26.7	26.6	324.1	12	-72401
	01 LST	24.7	22.5	25.7	25.5	25.3	26.6	28.6	26.7	24.8	25.6	25.1	26.0	307.1	12	-72401
	07 LST	24.5	21.0	24.9	24.1	23.9	24.2	25.8	22.1	22.1	21.5	23.6	25.1	282.8	12	-72401
	13 LST	25.6	23.5	26.3	26.8	27.2	27.4	28.8	27.1	26.3	26.0	25.4	26.0	316.4	12	-72401
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.1	21.2	22.7	23.5	24.9	25.0	26.4	26.1	24.2	23.8	23.5	24.1	288.5	12	-72401
	01 LST	21.2	19.2	22.7	22.8	22.3	24.4	27.5	24.9	23.0	22.7	22.6	23.2	276.5	12	-72401
	07 LST	21.0	18.6	21.7	21.6	21.8	22.6	24.5	21.3	20.1	19.0	20.8	22.4	254.8	12	-72401
	13 LST	22.0	20.2	20.8	20.3	20.1	20.3	21.0	19.7	20.0	21.7	21.2	23.5	250.8	12	-72401
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.4	19.1	20.0	21.2	23.7	23.7	25.1	24.1	22.9	21.4	21.6	21.5	264.7	12	-72401
	01 LST	20.2	17.2	20.5	20.1	20.6	22.7	26.0	23.5	21.5	21.1	21.2	22.5	257.1	12	-72401
	07 LST	19.0	16.4	19.5	19.5	19.8	21.5	23.6	19.8	19.1	17.2	19.0	21.0	235.4	12	-72401
	13 LST	20.5	18.2	18.6	18.2	18.2	19.1	19.6	18.7	18.8	21.1	19.6	21.2	231.8	12	-72401

RICHMOND/BYRD, VIRGINIA

STA NO. 72401

LAT: 3730N LONG: 07719W ELEVATION(FT) 00167

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. OBS
ABS MAX TMP (F)	80	82	94	96	98	104	105	107	103	99	86	78	107	49	-528
MEAN MAX TMP (F)	48	49	59	68	77	84	88	85	81	71	59	49	68	50	-28
MEAN MIN TMP (F)	30	30	38	46	55	64	68	67	61	49	39	31	48	50	-28
ABS MIN TMP (F)	-1	-3	11	19	31	43	52	49	39	21	14	-2	-3	49	-528
MEAN NO DYS TMP = DR GTR 90(F)	0.0	0.0	0.0	0.9	3.1	10.4	15.5	10.8	4.7	0.7	0.0	0.0	46.1	14	4778
MEAN NO DYS TMP = DR LES 32(F)	20.6	16.1	11.2	2.2	0.1	0.0	0.0	0.0	0.0	1.1	10.6	21.3	83.2	14	4778
MEAN NO DYS TMP = DR LES 0(F)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	14	4778
MEAN DEW PT TMP (F)	28	29	32	43	54	62	67	67	61	50	37	29	47	12	105084
MEAN REL HUM (PCT)	73	69	66	63	63	67	68	70	70	67	68	72	68	13	-28
MEAN PRESS ALT (FT)	-13	15	54	77	74	83	62	65	38	10	-8	-8	37	0	-50
MEAN PRECIP (IN)	3.10	3.10	3.70	3.50	3.70	3.80	4.50	4.50	3.20	2.90	2.30	3.10	41.4	59	-28
MEAN SNOW FALL (IN)	4.3	2.5	2.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.8	12.0	23	-113
MEAN NO DYS PRCP = DR GTR 0.1 IN	6.3	6.3	6.6	6.5	6.6	6.6	7.3	7.3	5.2	4.9	4.0	6.3	73.9	59	-29
MEAN NO DYS SNFL = DR GTR 1.5 IN	1.5	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	3.5	11	3652
MEAN NO DYS W/OCUR VSBY LES 1/2 MI	2.4	2.7	1.6	1.5	2.0	1.3	1.5	2.7	3.6	3.8	2.6	2.6	28.3	12	4381
MEAN NO DYS TSTHS	0.0	0.0	2.0	3.0	6.0	8.0	10.0	7.0	3.0	1.0	0.0	0.0	40.0	54	-24
P FREQ WND SPD = DR GTR 17 KTS	1.7	2.1	2.3	2.0	0.5	0.3	0.2	0.5	0.8	0.6	0.8	1.0	1.1	12	105083
P FREQ WND SPD = DR GTR 28 KTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12	105083
P FREQ LES 5000 FT A/D LES 5 MI	29.1	28.4	27.0	22.4	25.9	22.9	20.7	28.1	27.3	28.5	26.4	24.2	25.9	12	105080
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	17.1	17.9	15.1	12.2	15.7	9.2	6.9	12.3	14.5	12.8	13.7	13.8	13.4	12	13127
03-05 LST	18.4	19.9	17.6	16.0	21.6	16.3	13.7	22.0	22.2	20.7	16.9	15.8	18.4	12	13138
06-08 LST	17.5	21.8	17.6	16.7	20.0	17.3	15.8	27.8	25.1	28.0	19.1	16.7	20.3	12	13143
09-11 LST	17.0	18.9	15.7	10.4	12.7	10.7	8.0	16.2	14.5	18.6	15.4	15.9	14.5	12	13137
12-14 LST	15.1	14.7	11.7	7.5	8.0	5.1	4.3	6.9	7.2	10.5	9.7	13.2	9.5	12	13137
15-17 LST	12.8	14.2	10.5	6.2	7.3	4.7	3.0	4.1	6.1	9.3	8.2	11.3	8.1	12	13137
18-20 LST	13.5	14.2	11.7	7.3	8.2	5.6	2.8	5.2	7.8	9.1	8.3	11.9	8.8	12	13139
21-23 LST	15.9	15.1	13.5	8.7	10.6	5.8	3.3	6.5	9.0	10.1	11.1	13.4	10.3	12	13140
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.9	6.0	2.7	1.9	4.8	1.2	0.7	2.1	3.7	2.9	4.2	4.6	3.2	12	13127
03-05 LST	5.6	6.9	3.6	4.0	6.3	4.0	2.5	7.5	8.7	6.8	6.8	6.1	5.7	12	13138
06-08 LST	4.7	5.8	3.0	3.3	3.3	3.1	2.2	5.6	7.8	9.9	6.6	5.5	5.1	12	13143
09-11 LST	2.5	3.6	2.2	0.5	0.4	0.1	0.1	0.2	0.6	1.3	2.4	3.6	1.5	12	13137
12-14 LST	1.6	2.1	0.7	0.1	0.3	0.1	0.0	0.2	0.1	0.4	0.2	2.4	0.7	12	13137
15-17 LST	2.1	1.7	0.9	0.3	0.2	0.2	0.1	0.2	0.0	0.3	0.7	2.1	0.7	12	13137
18-20 LST	2.5	2.5	1.3	0.6	0.9	0.1	0.3	0.1	0.3	0.5	1.1	3.8	1.2	12	13139
21-23 LST	3.7	4.3	2.1	0.6	1.7	0.2	0.3	0.5	0.7	1.7	2.0	3.6	1.8	12	13140

A-51

RICHMOND/BYRD, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.2	24.4	28.0	28.4	29.1	28.6	30.2	29.6	28.0	29.1	28.1	28.0	338.7	12	4382
	01 LST	26.2	23.5	27.2	27.0	26.3	27.9	29.4	28.0	26.0	27.5	26.3	27.3	322.6	12	4382
	07 LST	26.5	22.3	26.3	25.4	25.3	25.1	26.7	22.6	22.7	22.4	25.1	26.4	296.8	12	4382
	13 LST	27.1	24.3	28.1	28.3	28.7	29.1	30.2	29.6	28.2	28.5	27.8	27.3	337.2	12	4382
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SPC WND LES 10 KTS	19 LST	22.1	19.4	19.7	18.9	24.5	25.1	27.4	27.9	25.7	26.2	24.2	23.5	284.6	12	4382
	01 LST	21.5	19.4	22.2	21.4	23.3	25.6	28.1	26.6	24.3	24.1	23.0	23.6	283.1	12	4382
	07 LST	21.9	17.5	20.2	19.7	19.5	22.1	23.8	21.2	20.8	20.5	22.1	23.0	252.3	12	4382
	13 LST	14.3	13.3	13.9	12.5	17.5	18.9	22.0	23.5	19.2	18.3	16.1	16.7	206.2	12	4382
SPC WND = GTR 17 KTS AND NO PRECIP.	19 LST	0.2	0.3	0.4	0.3	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.1	2.1	12	4217
	01 LST	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	1.8	12	4202
	07 LST	0.2	0.3	0.4	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	1.6	12	4187
	13 LST	1.4	1.2	1.4	1.2	0.2	0.1	0.1	0.0	0.2	0.3	0.2	0.9	7.2	12	4223
SPC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	16.3	16.8	21.1	20.1	22.4	22.5	21.7	22.4	21.2	21.4	19.7	16.6	242.2	12	4217
	01 LST	12.2	13.1	18.1	20.0	20.5	20.2	21.3	20.4	18.8	19.6	18.2	12.5	214.9	12	4202
	07 LST	10.6	10.8	15.6	21.6	21.2	23.2	22.4	21.6	19.8	20.4	16.0	10.9	214.1	12	4187
	13 LST	15.4	16.7	16.6	16.0	20.9	17.2	15.2	19.8	20.9	22.7	20.7	19.6	221.7	12	4223
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	10.7	10.5	10.8	8.3	7.8	7.9	7.2	9.6	12.2	13.6	12.6	13.2	124.4	12	4382
	01 LST	13.1	11.3	13.1	13.7	12.2	13.7	13.1	12.8	15.2	16.7	15.5	14.9	165.3	12	4382
	07 LST	9.5	8.4	11.3	9.3	9.3	11.3	9.7	9.9	10.0	11.5	10.9	10.4	121.5	12	4382
	13 LST	8.5	8.1	7.4	6.7	4.7	4.1	4.5	4.4	7.6	11.8	9.3	9.8	86.9	12	4332
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.8	23.7	26.7	27.0	27.7	27.3	29.6	28.7	26.6	27.7	26.7	26.6	324.1	12	4382
	01 LST	24.7	22.5	25.7	25.5	25.3	26.6	28.6	26.7	24.8	25.6	25.1	26.0	307.1	12	4382
	07 LST	24.5	21.0	24.9	24.1	23.9	24.2	25.8	22.1	22.1	21.5	23.6	25.1	282.8	12	4382
	13 LST	25.6	23.5	26.3	26.8	27.2	27.4	28.8	27.1	26.3	26.0	25.4	26.0	316.4	12	4382
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.1	21.2	22.7	23.5	24.9	25.0	26.4	26.1	24.2	23.8	23.5	24.1	288.5	12	4382
	01 LST	21.2	19.2	22.7	22.8	22.3	24.4	27.5	24.9	23.0	22.7	22.6	23.2	276.5	12	4382
	07 LST	21.0	18.6	21.7	21.6	21.8	22.6	24.5	21.3	20.1	19.0	20.5	22.4	254.8	12	4382
	13 LST	22.0	20.2	20.8	20.3	20.1	20.3	21.0	19.7	20.0	21.7	21.2	23.5	250.8	12	4382
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.4	19.1	20.0	21.2	23.7	23.7	25.1	24.1	22.9	21.4	21.6	21.5	264.7	12	4382
	01 LST	20.2	17.2	20.5	20.1	20.6	22.7	26.0	23.5	21.5	21.1	21.2	22.5	257.1	12	4382
	07 LST	19.0	16.4	19.5	19.5	19.8	21.5	23.6	19.8	19.1	17.2	19.0	21.0	235.4	12	4382
	13 LST	20.5	18.2	18.6	18.2	18.2	19.1	19.6	18.7	18.8	21.1	19.6	21.2	231.8	12	4382

SUFFOLK MUNICIPAL, VIRGINIA
STA NO. 75550

LAT: 3641N LONG: 07636W ELEVATION(FT) 00071

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
ABS MAX TMP (F)	77	79	87	94	96	105	103	101	100	98	85	78	105	19	-113
MEAN MAX TMP (F)	52	54	59	71	79	86	89	87	82	72	62	52	70	15	-113
MEAN MIN TMP (F)	31	31	36	46	54	63	68	66	61	50	38	30	48	15	-113
ABS MIN TMP (F)	8	8	14	24	30	40	49	46	39	23	18	5	5	15	-113
MEAN NO DYS TMP = OR GTR 90(F)	0.0	0.0	0.0	1.0	3.0	11.0	18.0	14.0	5.0	1.0	0.0	0.0	53.0	10	-113
MEAN NO DYS TMP = OR LES 32(F)	21.0	18.0	12.0	3.0	0.3	0.0	0.0	0.0	0.0	1.0	10.0	21.0	84.3	10	-113
MEAN NO DYS TMP = OR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15	-29
MEAN DEW PT TMP (F)														0	0
MEAN REL HUM (PCT)														0	0
MEAN PRESS ALT (FT)	-101	-73	-32	-12	-18	-7	-26	-29	-57	-83	-97	-93	-51	0	-50
MEAN PRECIP (IN)	3.36	3.33	3.50	3.12	3.89	4.15	5.86	5.67	3.98	3.39	3.58	3.16	47.2	15	-113
MEAN SNOW FALL (IN)					0.0	0.0	0.0	0.0	0.0					15	-29
MEAN NO DYS PRCP = OR GTR 0.1 IN	6.7	6.9	6.5	6.2	6.7	6.9	8.6	8.4	6.3	5.5	5.7	6.4	80.8	15	-29
MEAN NO DYS SNFL = OR GTR 1.5 IN					0.0	0.0	0.0	0.0	0.0					15	-29
MEAN NO DYS W/OCUR VSBY LES 1/2 MI														0	0
MEAN NO DYS TSTMS														0	0
P FREQ WND SPD = OR GTR 17 KTS														0	0
P FREQ WND SPD = OR GTR 28 KTS														0	0
P FREQ LES 5000 FT A/D LES 5 MI														0	0
P FREQ LES 1500 FT A/D LES 3 MI														0	0
FOR 00-02 LST														0	0
03-05 LST														0	0
06-08 LST														0	0
09-11 LST														0	0
12-14 LST														0	0
15-17 LST														0	0
18-20 LST														0	0
21-23 LST														0	0
P FREQ LES 300 FT A/D LES 1 MI														0	0
FOR 00-02 LST														0	0
03-05 LST														0	0
06-08 LST														0	0
09-11 LST														0	0
12-14 LST														0	0
15-17 LST														0	0
18-20 LST														0	0
21-23 LST														0	0

A-53

SUFFOLK MUNICIPAL, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	NO. OBS
CIG = GTR 1000 FT AND	19 LST														0	0
VSBY = GTR 3 MI	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
CIG = GTR 2000 FT AND VSBY = GTR	19 LST														0	0
3 MI W/SFC WND LES 10 KTS	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
SFC WND = GTR 17 KTS AND	19 LST														0	0
NO PRECIP.	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
SFC WND 4-10 KTS AND TMP 33-89	19 LST														0	0
DEG F AND NO PRECIP.	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
SKY COVER LES 3/10 AND	19 LST														0	0
VSBY = GTR 3 MI	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
CIG = GTR 2500 FT AND	19 LST														0	0
VSRY = GTR 3 MI	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
CIG = GTR 6000 FT AND	19 LST														0	0
VSBY = GTR 3 MI	01 LST														0	0
	07 LST														0	0
	13 LST														0	0
CIG = GTR 10000 FT AND	19 LST														0	0
VSBY = GTR 3 MI	01 LST														0	0
	07 LST														0	0
	13 LST														0	0

DATA NOT AVAILABLE

WILLIAMSBURG/CAMP PEARY AAF, VIRGINIA

STA NO. 75120

LAT: 3718N LONG: 07638W ELEVATION(FT) 00037

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PDR (YRS)	OC. 035
ABS MAX TMP (F)	72	76	84	90	93	99	96	94	95	86	80	73	99	6	-73454
MEAN MAX TMP (F)	47	49	58	66	77	83	85	85	78	70	61	47	67	6	-73454
MEAN MIN TMP (F)	29	32	40	48	59	66	70	69	62	51	43	31	50	6	-73454
ABS MIN TMP (F)	10	11	23	30	40	49	58	53	44	32	25	13	10	6	-73454
MEAN NO DYS TMP = DR GTR 90(F)	0.0	0.0	0.0	0.2	3.0	5.0	7.2	6.2	3.2	0.0	0.0	0.0	24.8	6	-73454
MEAN NO DYS TMP = DR LES 32(F)	20.6	16.1	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4	20.2	65.5	6	-73454
MEAN NO DYS TMP = DR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	-73454
MEAN DEW PT TMP (F)	27	29	36	42	54	63	68	66	61	49	41	28	47	6	-73454
MEAN REL HUM (PCT)	68	67	63	60	65	71	74	73	75	70	68	67	68	6	-73454
MEAN PRESS ALT (FT)	-139	-110	-72	-50	-55	-46	-67	-64	-90	-117	-134	-132	-89	0	-50
MEAN PRECIP (IN)	3.28	4.10	3.60	2.80	3.52	4.36	5.41	2.74	4.05	2.79	2.94	3.21	42.8	5	-73454
MEAN SNOW FALL (IN)	4.8	3.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	11.2	5	-73454
MEAN NO DYS PRCP = DR GTR 0.1 IN	6.2	8.4	8.2	6.0	6.7	7.7	7.5	6.2	3.8	4.2	4.2	6.0	75.1	5	-73454
MEAN NO DYS SNFL = DR GTR 1.5 IN	1.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	5	-73454
MEAN NO DYS W/OCCUR VSBY LES 1/2 MI	4.0	4.8	2.4	1.2	1.6	1.2	0.2	1.0	1.0	3.0	4.0	2.8	27.2	6	-73454
MEAN NO DYS TSTMS	0.0	0.6	1.6	3.2	6.2	6.2	8.2	6.6	1.0	1.2	0.0	0.6	35.4	6	-73454
P FREQ WND SPD = DR GTR 17 KTS	3.4	5.1	5.5	3.0	0.3	0.4	0.1	0.2	1.0	1.4	2.3	2.3	2.1	6	-73454
P FREQ WND SPD = DR GTR 28 KTS	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6	-73454
P FREQ LES 5000 FT A/D LES 5 MI	26.2	33.5	26.3	24.0	22.2	26.8	21.1	18.1	28.2	23.1	23.8	24.6	24.8	6	-73454
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	12.5	19.4	13.1	9.8	9.0	8.4	6.5	2.8	13.3	15.9	14.0	14.0	11.6	6	-73454
03-05 LST	15.3	20.1	11.8	12.4	11.8	14.4	8.0	7.1	14.4	19.1	14.0	15.5	13.7	6	-73454
06-08 LST	20.0	25.3	15.5	18.0	13.5	21.1	16.1	16.0	18.1	19.4	17.8	16.1	18.1	6	-73454
09-11 LST	19.6	24.3	13.1	16.4	11.6	15.6	7.1	7.1	13.1	12.6	12.9	17.2	14.2	6	-73454
12-14 LST	15.5	17.7	8.6	9.8	4.1	10.4	3.2	2.6	8.9	6.5	8.0	14.8	9.2	6	-73454
15-17 LST	13.5	17.5	8.2	7.1	2.6	10.4	3.7	2.4	11.9	7.0	7.8	11.4	8.6	5	-73454
18-20 LST	12.3	20.1	11.2	7.6	5.6	10.4	3.9	2.2	11.7	8.1	7.3	11.0	9.3	6	-73454
21-23 LST	13.3	20.3	12.3	8.7	7.1	9.3	5.8	3.2	11.7	11.3	8.7	12.5	10.4	6	-73454
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.9	6.1	3.7	2.9	2.4	0.9	0.2	0.0	0.6	5.1	5.1	4.9	3.0	6	-73454
03-05 LST	5.4	6.6	4.3	3.8	2.6	1.8	0.9	0.6	0.6	6.3	6.7	6.0	3.8	6	-73454
06-08 LST	5.8	10.2	2.6	2.0	1.7	2.2	0.2	1.7	2.5	4.6	6.4	6.7	3.9	6	-73454
09-11 LST	6.5	3.8	2.8	0.7	0.0	0.2	0.0	0.0	1.1	0.8	2.9	3.9	1.9	6	-73454
12-14 LST	4.1	3.1	2.2	0.7	0.0	0.2	0.0	0.0	0.0	0.3	1.1	1.5	1.1	6	-73454
15-17 LST	3.7	2.8	0.6	0.4	0.2	0.4	0.6	0.2	0.0	0.3	1.1	1.7	1.0	6	-73454
18-20 LST	2.6	3.8	1.9	1.1	0.0	0.0	0.2	0.0	0.6	0.0	0.4	3.7	1.2	6	-73454
21-23 LST	3.4	6.1	3.0	1.3	1.1	0.9	0.0	0.0	1.1	1.6	2.4	3.9	2.1	6	-73454

A-55

WILLIAMSBURG/CAMP PEARY AAF, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. OBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.8	23.0	27.8	27.8	30.2	27.8	30.2	30.2	27.2	29.2	28.8	28.2	338.2	6	-73454
	01 LST	27.6	23.4	27.2	27.4	28.8	27.6	29.4	30.4	26.7	26.2	26.8	27.0	328.3	6	-73454
	07 LST	25.8	21.0	26.6	25.6	27.8	25.0	26.8	27.0	25.2	25.3	24.0	27.0	307.3	6	-73454
	13 LST	26.6	23.4	29.0	27.8	30.6	28.4	30.4	30.8	28.0	29.3	28.2	26.8	339.5	6	-73454
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	20.4	16.3	17.8	17.6	23.8	21.8	25.4	27.4	21.8	22.7	22.6	21.8	259.4	6	-73454
	01 LST	19.0	14.5	17.6	17.2	22.8	22.6	23.4	26.4	20.7	20.2	19.2	18.4	242.0	6	-73454
	07 LST	18.0	13.5	17.2	16.0	21.4	19.0	21.8	22.3	20.0	20.2	18.0	18.0	225.4	6	-73454
	13 LST	14.6	11.9	14.0	13.0	19.8	18.2	23.0	21.9	16.7	20.2	16.4	12.4	202.1	6	-73454
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	0.6	0.8	1.6	0.6	0.0	0.2	0.4	0.0	0.0	0.2	1.0	0.0	5.4	6	-73454
	01 LST	0.9	1.2	1.2	0.4	0.0	0.0	0.0	0.2	0.0	0.2	0.4	1.0	5.5	6	-73454
	07 LST	0.6	0.6	1.4	0.8	0.2	0.2	0.0	0.0	0.0	0.5	0.2	0.0	4.5	6	-73454
	13 LST	1.1	1.5	2.2	1.2	0.2	0.2	0.0	0.2	0.2	0.0	0.6	0.8	8.2	6	-73454
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	12.2	13.8	18.1	21.4	24.9	21.5	22.9	23.3	19.6	18.1	16.6	15.1	227.5	6	-73454
	01 LST	11.3	11.3	17.4	19.1	18.7	17.2	19.4	17.6	17.7	16.5	17.9	9.3	193.6	6	-73454
	07 LST	8.1	8.5	18.4	20.7	21.0	19.1	19.7	19.8	18.3	15.0	17.3	8.4	194.3	6	-73454
	13 LST	13.7	15.3	19.5	19.7	22.7	19.4	21.7	21.3	19.1	23.4	20.7	16.6	235.1	6	-73454
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	12.6	9.5	9.8	8.2	8.0	6.4	5.4	7.6	11.0	15.7	12.2	14.4	120.8	6	-73454
	01 LST	14.2	10.3	15.0	14.2	11.8	12.4	12.4	13.7	16.7	16.5	13.8	16.4	167.4	6	-73454
	07 LST	11.0	8.3	8.8	10.0	8.6	8.0	8.8	7.2	9.5	12.7	9.2	12.8	114.9	6	-73454
	13 LST	11.4	8.1	8.4	6.8	6.6	5.2	4.6	5.4	9.5	14.7	9.2	9.8	99.7	6	-73454
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	26.4	21.8	26.0	27.6	28.6	26.4	29.4	29.8	25.7	28.0	26.8	26.6	323.1	6	-73454
	01 LST	26.6	21.8	26.0	25.8	28.0	26.8	28.6	29.6	24.8	25.0	25.0	26.2	314.2	6	-73454
	07 LST	23.8	20.0	24.0	24.0	26.4	23.0	25.4	26.2	22.7	24.7	23.0	25.0	288.2	6	-73454
	13 LST	25.0	22.6	27.6	26.6	28.2	25.4	29.0	29.2	24.8	28.2	26.6	25.2	318.4	6	-73454
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.8	18.6	22.8	22.8	25.8	24.6	25.6	26.6	24.2	25.7	23.6	23.2	287.3	6	-73454
	01 LST	25.0	17.7	23.4	23.8	23.8	24.2	26.2	27.6	23.7	24.2	24.0	24.2	287.8	6	-73454
	07 LST	21.2	17.5	22.6	23.0	24.2	20.8	24.6	25.1	20.5	22.3	19.8	23.2	265.0	6	-73454
	13 LST	21.6	19.7	21.0	21.0	24.0	22.2	24.4	25.1	22.2	25.7	22.8	22.6	272.3	6	-73454
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.8	16.5	20.2	21.4	23.8	21.6	22.2	25.0	22.7	24.7	22.6	20.0	281.5	6	-73454
	01 LST	22.4	15.5	22.4	21.0	22.0	22.2	24.6	26.2	23.0	22.5	21.6	21.6	265.0	6	-73454
	07 LST	19.2	14.9	20.8	20.0	21.2	19.0	22.8	23.3	18.8	21.2	18.4	21.2	240.8	6	-73454
	13 LST	20.8	17.3	19.6	18.4	22.0	20.8	22.6	23.7	20.7	24.7	20.2	21.8	252.6	6	-73454

WILLIAMSBURG/CENTRAL AIRPORT, VIRGINIA

STA NO. 75122

LAT: 3719N

LONG: 07643W

ELEVATION(FT) 00105

PARAMETER DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PQR (YRS)	NO. 005
ABS MAX TMP (F)	72	76	84	90	93	99	96	94	95	86	80	73	99	6	-73454
MEAN MAX TMP (F)	47	49	58	66	77	83	85	85	78	70	61	47	67	6	-73454
MEAN MIN TMP (F)	29	32	40	48	59	66	70	69	62	51	43	31	50	6	-73454
ABS MIN TMP (F)	10	11	23	30	40	49	58	53	44	32	25	13	10	6	-73454
MEAN NO DYS TMP = DR GTR 90(F)	0.0	0.0	0.0	0.2	3.0	5.0	7.2	6.2	3.2	0.0	0.0	0.0	24.8	6	-73454
MEAN NO DYS TMP = DR LES 32(F)	20.6	16.1	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4	20.2	65.5	6	-73454
MEAN NO DYS TMP = DR LES 0(F)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	-73454
MEAN DEW PT TMP (F)	27	29	36	42	54	63	68	66	61	49	41	28	47	6	-73454
MEAN REL HUM (PCT)	68	67	63	60	65	71	74	73	75	70	68	67	68	6	-73454
MEAN PRESS ALT (FT)	-71	-42	-4	17	12	21	0	3	-22	-49	-66	-64	-21	0	-50
MEAN PRECIP (IN)	3.28	4.10	3.60	2.80	3.52	4.36	5.41	2.74	4.05	2.79	2.94	3.21	42.8	5	-73454
MEAN SNOW FALL (IN)	4.8	3.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	11.2	5	-73454
MEAN NO DYS PRCP = DR GTR 0.1 IN	6.2	8.4	8.2	6.0	6.7	7.7	7.5	6.2	3.8	4.2	4.2	6.0	75.1	5	-73454
MEAN NO DYS SNFL = DR GTR 1.5 IN	1.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	5	-73454
MEAN NO DYS W/OCCUR VSBY LES 1/2 MI	4.0	4.8	2.4	1.2	1.6	1.2	0.2	1.0	1.0	3.0	4.0	2.8	27.2	6	-73454
MEAN NO DYS TSTMS	0.0	0.6	1.6	3.2	6.2	6.2	8.2	6.6	1.0	1.2	0.0	0.6	35.4	6	-73454
P FREQ WND SPD = DR GTR 17 KTS	3.4	5.1	5.5	3.0	0.3	0.4	0.1	0.2	1.0	1.4	2.3	2.3	2.1	6	-73454
P FREQ WND SPD = DR GTR 28 KTS	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6	-73454
P FREQ LES 5000 FT A/D LES 5 MI	26.2	33.5	26.3	24.0	22.2	26.8	21.1	18.1	28.2	23.1	23.8	24.6	24.8	6	-73454
P FREQ LES 1500 FT A/D LES 3 MI															
FOR 00-02 LST	12.5	19.4	13.1	9.8	9.0	8.4	6.5	2.8	13.3	15.9	14.0	14.0	11.6	6	-73454
03-05 LST	15.3	20.1	11.8	12.4	11.8	14.4	8.0	7.1	14.4	19.1	14.0	15.5	13.7	6	-73454
06-08 LST	20.0	25.3	15.5	18.0	13.5	21.1	16.1	16.0	16.1	19.4	17.8	16.1	18.1	6	-73454
09-11 LST	19.6	24.3	13.1	16.4	11.6	15.6	7.1	7.1	13.1	12.6	12.9	17.2	14.2	6	-73454
12-14 LST	15.5	17.7	8.6	9.8	4.1	10.4	3.2	2.6	8.9	6.5	8.0	14.8	9.2	6	-73454
15-17 LST	13.5	17.5	8.2	7.1	2.6	10.4	3.7	2.4	11.9	7.0	7.8	11.4	8.6	6	-73454
18-20 LST	12.3	20.1	11.2	7.6	5.6	10.4	3.9	2.2	11.7	8.1	7.3	11.0	9.3	6	-73454
21-23 LST	13.3	20.3	12.3	8.7	7.1	9.3	5.8	3.2	11.7	11.3	8.7	12.5	10.4	6	-73454
P FREQ LES 300 FT A/D LES 1 MI															
FOR 00-02 LST	3.9	6.1	3.7	2.9	2.4	0.9	0.2	0.0	0.6	5.1	5.1	4.9	3.0	6	-73454
03-05 LST	5.4	6.6	4.3	3.8	2.6	1.8	0.9	0.6	0.6	6.5	6.7	6.0	3.8	6	-73454
06-08 LST	5.8	10.2	2.6	2.0	1.7	2.2	0.2	1.7	2.5	4.6	6.4	6.7	3.9	6	-73454
09-11 LST	6.5	3.8	2.8	0.7	0.0	0.2	0.0	0.0	1.1	0.8	2.9	3.9	1.9	6	-73454
12-14 LST	4.1	3.1	2.2	0.7	0.0	0.2	0.0	0.0	0.0	0.3	1.1	1.5	1.1	6	-73454
15-17 LST	3.7	2.8	0.6	0.4	0.2	0.4	0.6	0.2	0.0	0.3	1.1	1.7	1.0	6	-73454
18-20 LST	2.6	3.8	1.9	1.1	0.0	0.0	0.2	0.0	0.6	0.0	0.4	3.7	1.2	6	-73454
21-23 LST	3.4	6.1	3.0	1.3	1.1	0.9	0.0	0.0	1.1	1.6	2.4	3.9	2.1	6	-73454

A-57

WILLIAMSBURG/CENTRAL AIRPORT, VIRGINIA

MEAN NUMBER OF DAYS

PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	POR (YRS)	NO. UBS
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.8	23.0	27.8	27.8	30.2	27.8	30.2	30.2	27.2	29.2	28.8	28.2	338.2	6	-73454
	01 LST	27.6	23.4	27.2	27.4	28.8	27.6	29.4	30.4	26.7	26.2	26.8	27.0	328.5	6	-73454
	07 LST	25.8	21.0	26.6	25.6	27.8	25.0	26.8	27.0	25.2	25.5	24.0	27.0	307.3	6	-73454
	13 LST	26.6	23.4	29.0	27.8	30.6	28.4	30.4	30.8	28.0	29.5	28.2	26.8	339.3	6	-73454
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	20.4	16.3	17.8	17.6	23.8	21.8	25.4	27.4	21.8	22.7	22.6	21.8	259.4	6	-73454
	01 LST	19.0	14.5	17.6	17.2	22.8	22.6	23.4	26.4	20.7	20.2	19.2	18.4	242.0	6	-73454
	07 LST	18.0	13.5	17.2	16.0	21.4	19.0	21.8	22.3	20.0	20.2	18.0	18.0	225.4	6	-73454
	13 LST	14.6	11.9	14.0	13.0	19.8	18.2	23.0	21.9	16.7	20.2	16.4	12.4	202.1	6	-73454
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	0.6	0.8	1.6	0.6	0.0	0.2	0.4	0.0	0.0	0.2	1.0	0.0	5.4	6	-73454
	01 LST	0.9	1.2	1.2	0.4	0.0	0.0	0.0	0.2	0.0	0.2	0.4	1.0	5.5	6	-73454
	07 LST	0.6	0.6	1.4	0.8	0.2	0.2	0.0	0.0	0.0	0.5	0.2	0.0	4.5	6	-73454
	13 LST	1.1	1.5	2.2	1.2	0.2	0.2	0.0	0.2	0.2	0.0	0.6	0.8	8.2	6	-73454
SFC WND 4-10 KTS AND THP 33-89 DEG F AND NO PRECIP.	19 LST	12.2	13.8	18.1	21.4	24.9	21.5	22.9	23.3	19.6	18.1	16.6	15.1	227.5	6	-73454
	01 LST	11.3	11.3	17.4	19.1	18.7	17.2	19.4	17.6	17.7	16.5	17.9	9.5	193.6	6	-73454
	07 LST	8.1	8.5	18.4	20.7	21.0	19.1	19.7	19.8	18.3	15.0	17.3	8.4	194.3	6	-73454
	13 LST	15.7	15.3	19.5	19.7	22.7	19.4	21.7	21.3	19.1	23.4	20.7	16.6	235.1	6	-73454
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	12.6	9.5	9.8	8.2	8.0	6.4	5.4	7.6	11.0	15.7	12.2	14.4	120.8	6	-73454
	01 LST	14.2	10.3	15.0	14.2	11.8	12.4	12.4	13.7	16.7	16.5	13.8	16.4	167.4	6	-73454
	07 LST	11.0	8.3	8.8	10.0	8.6	8.0	8.8	7.2	9.5	12.7	9.2	12.8	114.9	6	-73454
	13 LST	11.4	8.1	8.4	6.8	6.6	5.2	4.6	5.4	9.5	14.7	9.2	9.8	99.7	6	-73454
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	26.4	21.8	26.0	27.6	28.6	26.4	29.4	29.8	25.7	28.0	26.8	26.6	323.1	6	-73454
	01 LST	26.6	21.8	26.0	25.8	28.0	26.8	28.6	29.6	24.8	25.0	25.0	26.2	314.2	6	-73454
	07 LST	23.8	20.0	24.0	24.0	26.4	23.0	25.4	26.2	22.7	24.7	23.0	25.0	288.2	6	-73454
	13 LST	25.0	22.6	27.6	26.6	28.2	25.4	29.0	29.2	24.8	28.2	26.6	25.2	318.4	6	-73454
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	23.8	18.6	22.8	22.8	25.8	24.6	25.6	26.6	24.2	25.7	23.6	23.2	287.3	6	-73454
	01 LST	25.0	17.7	23.4	23.8	23.8	24.2	26.2	27.6	23.7	24.2	24.0	24.2	287.8	6	-73454
	07 LST	21.2	17.5	22.6	23.0	24.2	20.8	24.6	25.1	20.5	22.8	19.8	23.2	285.0	6	-73454
	13 LST	21.6	19.7	21.0	21.0	24.0	22.2	24.4	25.1	22.2	25.7	22.8	22.6	272.3	6	-73454
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.8	16.5	20.2	21.4	23.8	21.6	22.2	25.0	22.7	24.7	22.6	20.0	261.5	6	-73454
	01 LST	22.4	15.5	22.4	21.0	22.0	22.2	24.6	26.2	23.0	22.5	21.6	21.6	265.0	6	-73454
	07 LST	19.2	14.9	20.8	20.0	21.2	19.0	22.8	23.3	18.8	21.2	18.4	21.2	240.8	6	-73454
	13 LST	20.8	17.3	19.6	18.4	22.0	20.8	22.6	23.7	20.7	24.7	20.2	21.6	252.6	6	-73454

AREA NO. 16

UNITED STATES OF AMERICA		MID ATL REGION				LATITUDE 3630N		LONGITUDE 07800W						
BOUNDARIES		3400N 07800W	3445N 08340W	3445N 08340W	3445N 08340W	3800N 07830W	3800N 07830W	3800N 07830W	3940N 07735W					
		3940N 07735W	3950N 07720W	3950N 07720W	3950N 07720W	3950N 07403W								
PARAMETER DESCRIPTION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
MEAN MAX TMP (F)		50	52	59	69	78	85	88	86	81	71	61	51	69
MEAN MIN TMP (F)		31	32	38	47	56	64	68	67	61	50	39	32	49
LARGEST MEAN PRECIP(IN)		4.31	5.15	5.85	4.55	5.14	5.55	7.79	7.31	7.18	4.14	5.09	4.55	66.6
SMALLEST MEAN PRECIP(IN)		2.30	2.27	3.10	2.27	1.36	2.45	2.76	2.74	2.26	0.98	2.00	2.17	26.7
MEAN NUMBER OF DAYS														
CIG = GTR 1000 FT AND VSBY = GTR 3 MI	19 LST	27.3	24.5	27.7	28.0	29.1	28.8	30.1	29.6	28.1	29.0	27.6	27.3	337.3
	01 LST	26.1	23.8	27.0	26.9	27.3	27.5	28.9	26.2	26.5	26.8	26.2	26.7	322.1
	07 LST	24.6	22.2	25.1	25.7	25.8	25.6	26.3	24.1	22.9	23.5	24.0	24.9	294.7
	13 LST	27.2	24.3	27.7	28.3	29.5	28.9	30.3	29.9	28.5	28.9	27.7	27.2	338.4
CIG = GTR 2000 FT AND VSBY = GTR 3 MI W/SFC WND LES 10 KTS	19 LST	19.5	17.0	18.1	18.1	22.9	22.9	24.9	25.4	24.0	23.9	21.4	20.7	258.2
	01 LST	18.1	16.3	18.3	19.5	22.1	23.3	25.1	24.6	22.5	21.6	19.9	20.0	251.3
	07 LST	17.0	15.2	16.4	16.6	18.1	19.5	21.3	20.0	18.1	18.1	18.1	18.6	217.0
	13 LST	12.4	10.5	10.4	10.5	14.8	17.4	19.2	19.8	17.2	16.6	13.9	13.7	176.4
SFC WND = GTR 17 KTS AND NO PRECIP.	19 LST	1.4	1.3	1.7	1.3	0.5	0.3	0.3	0.2	0.3	0.3	0.9	0.9	9.6
	01 LST	1.3	1.3	1.5	0.8	0.3	0.2	0.1	0.2	0.4	0.5	0.9	1.0	8.7
	07 LST	1.4	1.3	1.6	1.1	0.6	0.3	0.1	0.3	0.5	0.6	0.8	0.9	9.5
	13 LST	3.7	3.8	4.5	3.9	1.6	0.9	0.6	0.6	0.9	1.6	2.4	2.7	27.2
SFC WND 4-10 KTS AND TMP 33-89 DEG F AND NO PRECIP.	19 LST	13.7	14.3	17.8	18.4	20.5	19.2	20.0	19.5	18.2	17.4	15.7	13.2	207.9
	01 LST	11.1	10.9	15.1	17.7	17.9	17.0	17.1	16.2	16.3	16.5	14.4	10.9	181.1
	07 LST	9.6	9.5	13.8	17.2	18.8	18.5	18.9	18.2	16.9	16.4	13.5	9.6	180.9
	13 LST	13.5	13.0	14.2	13.9	17.7	15.5	15.1	17.0	18.0	18.7	16.1	15.1	187.8
SKY COVER LES 3/10 AND VSBY = GTR 3 MI	19 LST	11.5	10.5	11.1	9.3	7.8	7.5	6.6	8.3	11.4	15.1	13.5	13.4	126.0
	01 LST	12.6	12.1	13.4	13.6	13.2	13.7	13.7	13.6	14.7	16.6	14.4	14.2	165.8
	07 LST	8.5	8.1	9.5	9.8	8.9	9.1	8.7	8.5	9.1	11.4	10.3	9.3	111.2
	13 LST	8.1	7.5	8.0	7.4	6.4	4.9	4.3	5.1	7.4	11.5	9.7	9.4	89.7
CIG = GTR 2500 FT AND VSBY = GTR 3 MI	19 LST	25.7	23.2	26.3	26.8	27.8	27.5	29.1	28.2	26.7	27.4	26.3	26.0	321.0
	01 LST	24.4	22.4	25.3	25.5	26.0	26.1	27.7	26.6	25.0	25.1	24.7	25.3	304.1
	07 LST	22.8	20.8	23.3	24.1	23.9	23.8	24.7	22.6	21.3	21.8	22.6	23.4	275.1
	13 LST	23.0	22.7	25.3	26.3	27.2	26.9	28.0	27.0	25.6	26.3	25.7	25.3	311.3
CIG = GTR 6000 FT AND VSBY = GTR 3 MI	19 LST	22.4	20.4	22.9	23.3	24.6	24.7	26.3	25.3	24.2	24.8	23.5	23.2	285.6
	01 LST	21.3	19.5	22.4	23.1	24.0	24.2	26.1	24.8	22.9	22.8	22.2	22.6	275.9
	07 LST	19.3	18.1	20.5	21.6	21.8	22.3	23.3	21.0	19.3	19.7	20.0	20.6	247.5
	13 LST	21.5	19.3	20.6	20.5	21.3	21.0	21.7	21.2	20.7	22.5	22.0	22.1	254.4
CIG = GTR 10000 FT AND VSBY = GTR 3 MI	19 LST	20.3	18.4	20.8	20.9	22.3	22.8	24.2	23.4	22.5	23.0	21.5	21.2	261.3
	01 LST	19.4	17.4	20.1	20.7	22.0	22.7	24.7	23.2	21.7	21.5	20.3	20.7	254.4
	07 LST	17.1	15.9	18.4	19.1	19.7	20.7	21.5	19.4	17.9	18.0	18.0	18.4	224.1
	13 LST	19.2	17.4	18.8	18.7	19.6	19.7	20.4	19.8	19.5	21.2	20.1	20.0	234.4

SOURCES OF CLIMATOLOGICAL DATA

Local Climatological Data, issued monthly using data from first order stations and summarized annually. Available singly and by subscription through Superintendent of Documents.

Climatological Data, Monthly Summarized Station and Divisional Data, issued monthly and with an annual summary sold singly and by subscription by the Superintendent of Documents.

Climatological Data, National Summary, issued monthly and with an annual summary issued by the Superintendent of Documents.

APPENDIX B

AERIAL PHOTOGRAPHIC COVERAGE IN RICHEL

APPENDIX B

INDEX

<u>Title</u>	<u>Page</u>
THERMAL SCAN IMAGERY	B-1
NASA HIGH ALTITUDE PHOTOGRAPHY	B-1
USCGS MEDIUM ALTITUDE PHOTOGRAPHY	B-2
US DEPARTMENT OF AGRICULTURE PHOTOGRAPHY	B-4
US DEPARTMENT OF INTERIOR (USGS) PHOTOGRAPHY	B-6

THERMAL SCAN IMAGERY OF JAMES
BETWEEN RICHMOND & NORFOLK

<u>Source</u>	<u>Date (Zulu)</u>	<u>Altitude</u>	<u>Time (Zulu)</u>
AF	9/24/71	10,000 ft.	0100
IR 70-45		20,000 ft.	0300
		37,000 ft.	0500
AF	9/29/70	10,000 ft.	0100
IR 71-45			
AF	11/19/71	10,000 ft.	0100
IR 71-64A			
NASA	10/10/71	10,000 ft.	0100
MSN 187		10,000 ft.	0500
		10,000 ft.	0900

NASA HIGH ALTITUDE PHOTOGRAPHY IN RICHEL

<u>Mission</u>	<u>Year</u>	<u>Scale</u>	<u>Camera</u>	<u>Lens</u>	<u>Film</u>
103	8/69	1: 60,000	Zeiss	12"	1
		1:120,000	RC 8	6"	1 & 2
144	9/70	1: 60,000	Zeiss	12"	3
		1:120,000	RC 8	6"	3 & 4
145	10/70	1: 60,000	Zeiss	12"	3
		1:120,000	RC 8	6"	3 & 4
187	10/71	1: 50,000	RC 8	6"	3 & 5

- 1 - False color IR (SO 117)
- 2 - Ektachrome (2448)
- 3 - False color IR (2443)
- 4 - Ektachrome (2445)
- 5 - False color IR (SO 397)

70 mm Hasselblad imagery with 40 mm lenses is also available from each of these flights with various film and filter combinations.

UNITED STATES COAST AND GEODETIC SURVEY

COASTAL PHOTOGRAPHY IN RICHEL

The following is a list of index maps obtainable from the USCGS which contain flight track lines and frame center locations. The film is black and white, color, and color IR and covers the period 1945 to present.

<u>James Estuary</u>	
<u>Index</u>	<u>Date</u>
134A-1	No date
134A-2	No date
134A-3	6/12/61
134A-4	1/1/69

<u>James Estuary</u>	
<u>Index</u>	<u>Date</u>
134B-1	1/21/53
134B-2	7/6/61
134B-3	4/15/54
134B-4	8/4/59
134B-5	4/1/65
134B-6	3/13/63
134B-7	1/1/69

<u>Norfolk</u>	
<u>Index</u>	<u>Date</u>
134E-1	1944
134E-2	1945
134E-3	1/21/53
134E-4	4/1/52
134E-5	4/15/54
134E-6	8/4/59
134E-7	4/20/64
134E-8	3/13/63
134E-9	4/1/66
*134D&E	1/1/70

<u>*Virginia Beach</u>	
<u>Index</u>	<u>Date</u>
134F-1	7/23/54
134F-2	6/20/63
134F-3	11/28/62
134F-4	3/13/63
134F-5	4/1/66

*In 1970 index maps were combined as follows:
 134 A,B,C
 134 D,F

Index maps and photos are obtainable from:
 U.S. Department of Commerce, Director, National Ocean Survey, National
 Ocean and Atmospheric Agency, Rockville, Maryland 20852

PHOTOGRAPHIC COVERAGE FOR VIRGINIA COUNTIES IN RICHEL
Agricultural Stabilization and Conservation Service, USDA

This alphabetical listing by counties gives the various photographic coverages by the Agricultural Stabilization and Conservation Service of the U.S. Department of Agriculture and its predecessor agencies. Aerial and photo-index negatives are available for these coverages and reproductions can be prepared for sales purposes.

Charles City	DVL*	53(1)		60(1)		
Chesterfield	DHH	49(4)		55(1)	59(4)	
Dinwiddie	CSU DHJ	41(3)	N	49(4)	54(1)	58(4)
Goochland	DVQ	53(3)		59(1)		
Greensville	DFS	49(1)		54(1)	59(1)	
Hampton	DWJ	54(1)				
Hanover	DVR	53(5)		59(4)		
Henrico	DVS	53(1)		59(1)		
Isle of Wight	FG DFT	38(1)	A N	48(4)	54(3)	58(3)
James City	DVT	53(1)		60(1)		
Nansemond	FG DFU	38(1)	A N	48(3)	54(1)	58(1)
New Kent	DWB	53(1)		60(1)		
Newport News	DWJ	54(1)				
Norfolk	FG DGF	38(3)	A N	49(1)	54(1)	58(1)
Powhatan	DWD	53(1)		59(1)		
Prince George	DHN	49(1)		54(1)	58(1)	
Princess Anne	FG DGH	38(3)	A N	49(1)	54(1)	58(1)
Southampton	DFU	49(4)		54(4)	59(4)	
Surry	DFW	48(1)		54(1)	59(1)	
Sussex	DFX	49(4)		54(3)	59(4)	
York	DWI	53(1)				

*The objective has been to assign a symbol to a county the first time it was photographed and to use the same symbol each time the county was rephotographed. Through inadvertence a second symbol was assigned to some counties and used on one or more recoverages. In such cases both symbols are listed. The second symbol is tied to the year of photography. A S C S photography is flown in a N-S direction at a scale of 1:20,000 with an 8 1/4-inch lens on panchromatic film unless otherwise noted.

A - Partial County Coverage

N - Nitrate Film, stored in National Archives and Records Service, Cartographic Branch, G.S.A., Washington, D.C.
20408

STATUS OF AERIAL PHOTOGRAPHY COVERAGE

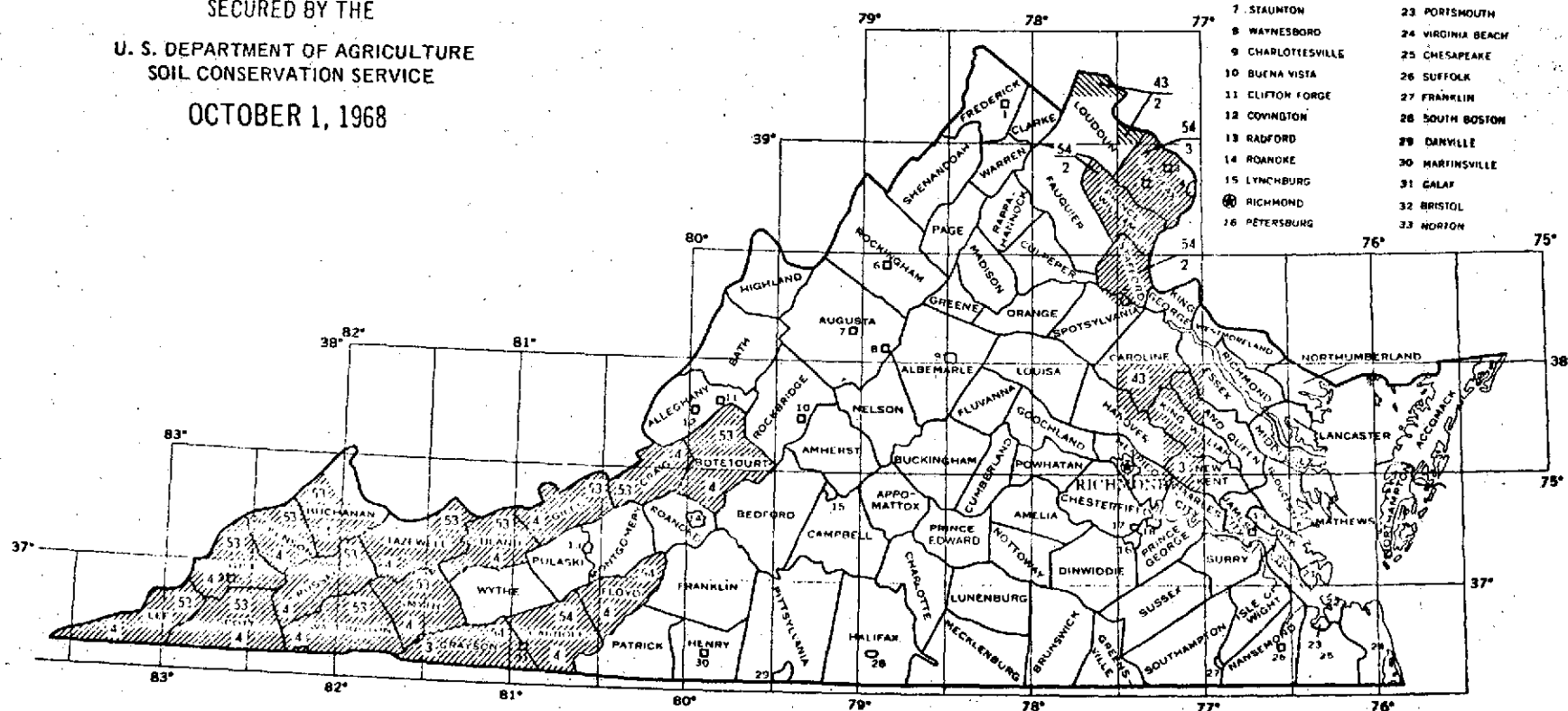
SECURED BY THE

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

OCTOBER 1, 1968

INDEPENDENT CITIES

- | | |
|-------------------|---------------------|
| 1 WINCHESTER | 17 COLONIAL HEIGHTS |
| 2 FAIRFAX | 18 HOPEWELL |
| 3 FALLS CHURCH | 19 WILLIAMSBURG |
| 4 ALEXANDRIA | 20 NEWPORT NEWS |
| 5 FREDERICKSBURG | 21 HAMPTON |
| 6 HARRISONBURG | 22 NORFOLK |
| 7 STAUNTON | 23 PORTSMOUTH |
| 8 WAYNESBORO | 24 VIRGINIA BEACH |
| 9 CHARLOTTESVILLE | 25 CHESAPEAKE |
| 10 BUENA VISTA | 26 SUFFOLK |
| 11 CLIFTON FORGE | 27 FRANKLIN |
| 12 COWINGTON | 28 SOUTH BOSTON |
| 13 RADFORD | 29 DANVILLE |
| 14 ROANOKE | 30 MARTINSVILLE |
| 15 LYNCHBURG | 31 GALAX |
| 16 RICHMOND | 32 BRISTOL |
| | 33 NORTON |



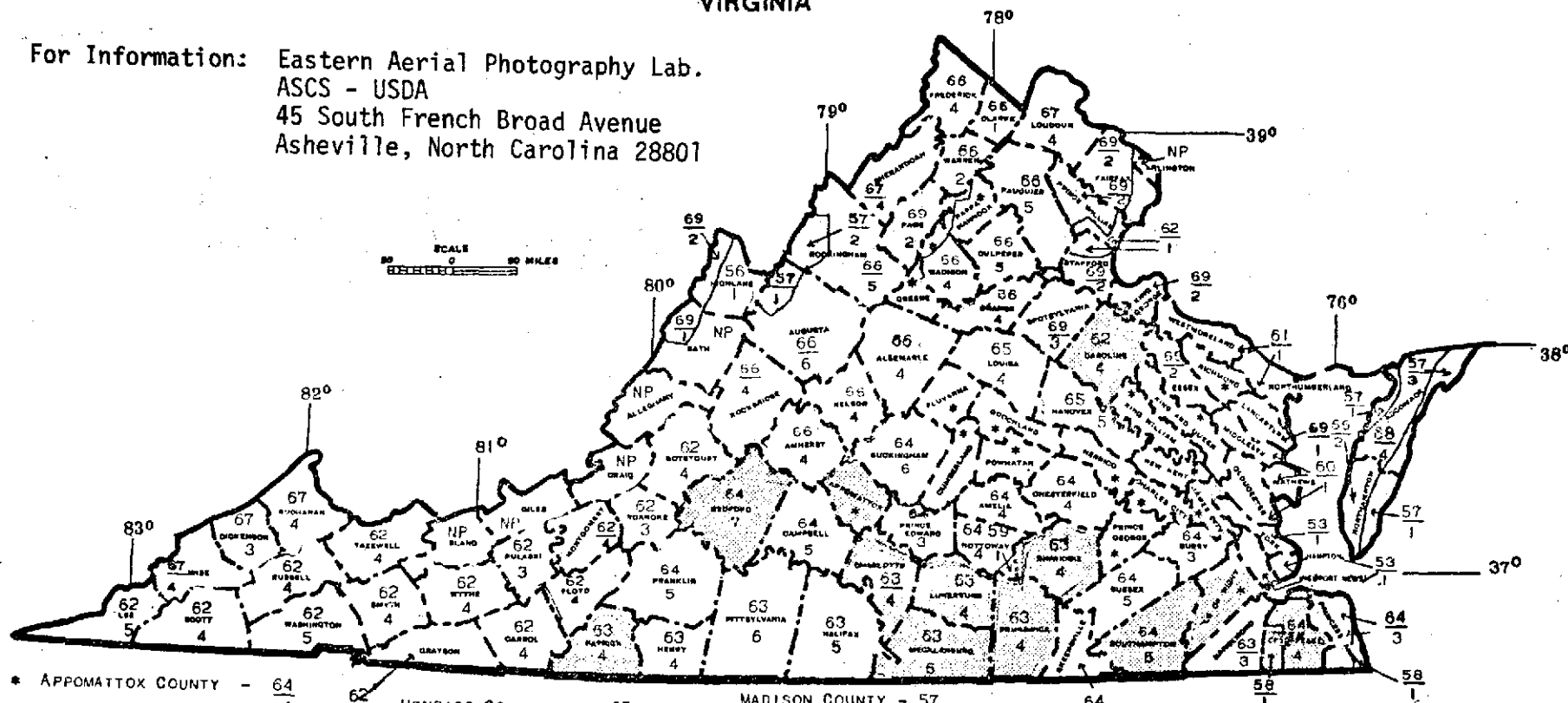
For Information:
Director, Cartographic Division
Soil Conservation Service, USDA
Federal Center Building
Hyattsville, Maryland 20781

0 25 50 75 100
STATUTE MILES
Albers Equal Area Projection

VIRGINIA

For Information: Eastern Aerial Photography Lab.
ASCS - USDA
45 South French Broad Avenue
Asheville, North Carolina 28801

SCALE
0 50 MILES



* APPOMATTOX COUNTY - $\frac{64}{4}$	HENRICO COUNTY - $\frac{65}{3}$	MADISON COUNTY - $\frac{57}{1}$
CHARLES CITY COUNTY - $\frac{69}{2}$	ISLE OF WIGHT COUNTY - $\frac{58}{3}$	NEW KENT COUNTY - $\frac{69}{2}$
CUMBERLAND COUNTY - $\frac{64}{3}$	JAMES CITY COUNTY - $\frac{60}{1}$	POWhatan COUNTY - $\frac{64}{3}$
FLUVANNA COUNTY - $\frac{65}{3}$	KING AND QUEEN COUNTY - $\frac{60}{4}$	PRINCE GEORGE COUNTY - $\frac{63}{3}$
GOCHLAND COUNTY - $\frac{65}{3}$	KING WILLIAM COUNTY - $\frac{60}{3}$	RAPPAHANNOCK COUNTY - $\frac{66}{3}$
GREENE COUNTY - $\frac{66}{2}$		♦♦RAPPAHANNOCK COUNTY - $\frac{58}{2}$
		RICHMOND COUNTY - $\frac{69}{1}$

CITY OF SOUTH NORFOLK AND NORFOLK COUNTY CONSOLIDATED, BECAME INDEPENDENT CITY OF CHESAPEAKE, EFFECTIVE 1-1-63.
CITY OF VIRGINIA BEACH AND PRINCESS ANNE COUNTY CONSOLIDATED, BECAME INDEPENDENT CITY OF VIRGINIA BEACH, EFFECTIVE 1-1-63.

STATUS OF AERIAL PHOTOGRAPHY COVERAGE

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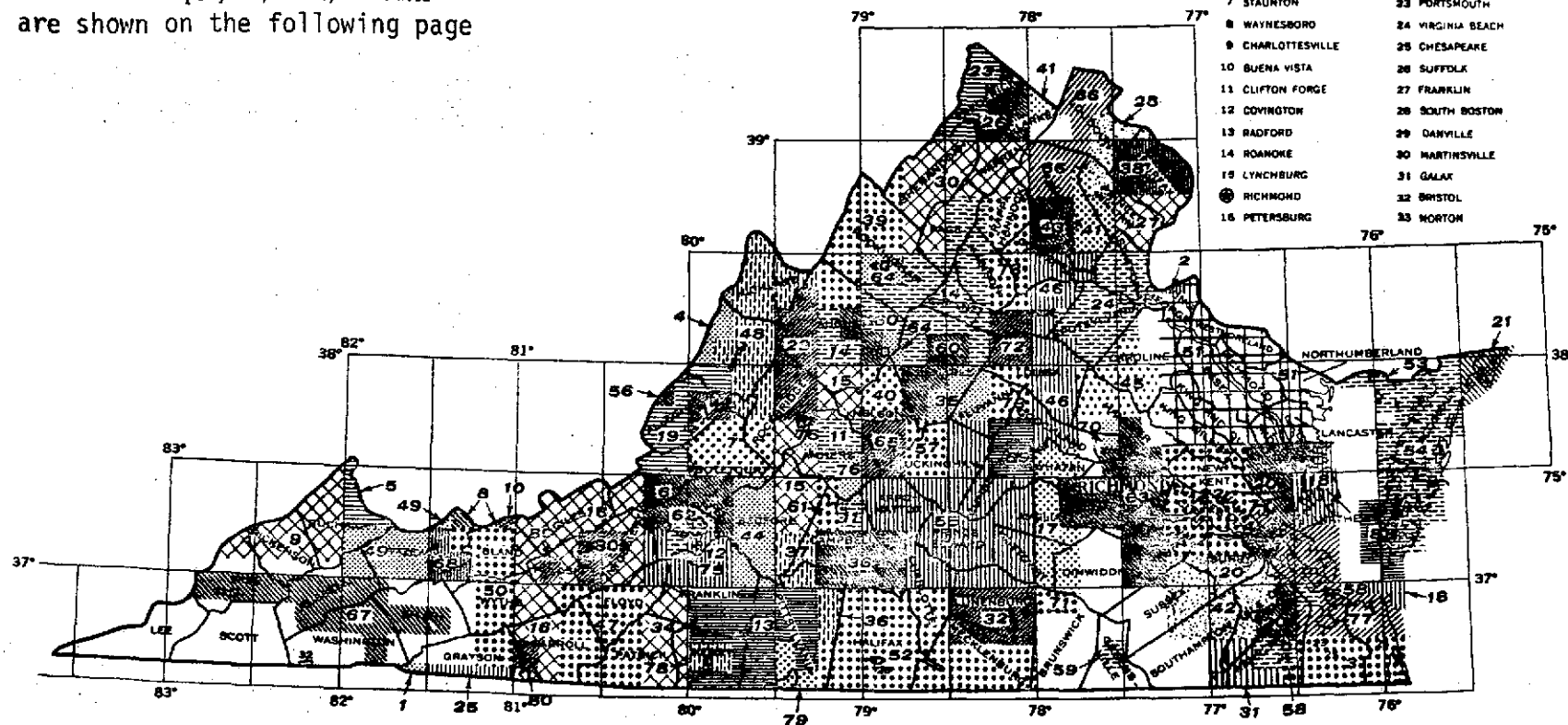
July 31, 1970

AERIAL PHOTOGRAPHY
of the
GEOLOGICAL SURVEY

Information about projects, scales, and dates
are shown on the following page

INDEPENDENT CITIES

- | | |
|-------------------|---------------------|
| 1 WINCHESTER | 17 COLONIAL HEIGHTS |
| 2 FAIRFAX | 18 HOPKINS |
| 3 FALLS CHURCH | 19 WILLIAMSBURG |
| 4 ALEXANDRIA | 20 NEWPORT NEWS |
| 5 FREDERICKSBURG | 21 HAMPTON |
| 6 HARRISONBURG | 22 NORFOLK |
| 7 STAUNTON | 23 PORTSMOUTH |
| 8 WAYNESBORO | 24 VIRGINIA BEACH |
| 9 CHARLOTTESVILLE | 25 CHESAPEAKE |
| 10 BUENA VISTA | 26 SUFFOLK |
| 11 CLIFTON FORGE | 27 FRANKLIN |
| 12 DOWNTOWN | 28 SOUTH BOSTON |
| 13 RADFORD | 29 DANVILLE |
| 14 ROANOKE | 30 MARTINSVILLE |
| 15 LYNCHBURG | 31 GALAX |
| 16 RICHMOND | 32 BRISTOL |
| | 33 MORTON |



0 25 50 75 100
STATUTE MILES

VIRGINIA

Status October 1970

VIRGINIA

Prints from the negatives held by the Geological Survey, for the projects listed below, may be obtained from the Map Information Office, Washington, D.C. 20242. Instructions for ordering prints are given in the folder, AERIAL PHOTOGRAPHIC REPRODUCTIONS.

(Lens focal length 6 inches, except as noted)

NO.	PROJECT SYMBOL	DATE	SCALE	NO.	PROJECT SYMBOL	DATE	SCALE	NO.	PROJECT SYMBOL	DATE	SCALE
1	DE	1945-48	1:37,400	37	VAZL	1964	1:27,000	72	VCGM	1969	1:24,000
2	OQ	1952	1:23,600	38	VBBM	1964	1:24,000	73	VCIW	1969	1:24,000
3	TU	1953	1:28,400	39	VAWI	1965	1:27,000	74	VCCM ³	1969	1:24,000
4	VLO	1958	1:33,000	40	VAZJ	1965	1:27,000	75	VCHD ²	1970	1:24,000
5	VQI	1958	1:31,000	41	VBCV	1965	1:19,000	76	VCIX	1970	1:24,000
6	VABW	1960	1:28,000	41	VBCV	1965	1:28,000	77	VCIX	1970	1:24,000
7	VACA	1960	1:28,000	42	SWAZ ¹	1966	1:12,000	78	VCIZ	1970	1:24,000
8	VWS	1960	1:29,000	43	VBGW	1966	1:24,000	79	VCJA	1970	1:24,000
9	VABZ	1961	1:28,000	44	VBIR	1966	1:26,000	80	VCJB ³	1970	1:24,000
10	VAPT	1961	1:26,000	45	VBIZ	1966	1:19,000	81	VI	1952	1:20,000
11	VAMA	1962	1:27,000	46	VBKG	1966	1:19,000				
12	VAMB	1962	1:26,000	47	VBJJ	1967	1:27,000				
13	VANL	1963	1:27,000	48	VBJK	1967	1:27,000				
14	VAOZ	1963	1:27,000	49	VBJX	1967	1:27,000				
15	VAPA	1963	1:27,000	50	VBKV	1967	1:27,000				
16	VAPI	1963	1:27,000	51	VBNA	1967	1:19,000				
17	VAPL	1963-64	1:19,000	52	VBPP	1967	1:27,000				
18	VAPM	1963	1:24,000	53	SWBK-1 ¹	1967	1:27,500				
19	VAPX	1963	1:27,000	54	SWBK-1 ¹	1967	1:41,400				
20	VAPY	1963	1:19,000	55	VBPQ	1967	1:19,000				
21	VAQA	1963	1:24,000	56	VBRM	1968	1:27,000				
22	VAQB	1963-64	1:19,000	57	VBWG	1968	1:24,000				
23	VAQO	1963	1:27,000	58	VBYJ	1968	1:24,000				
24	VAQV	1963	1:19,000	59	VBYK	1968	1:24,000				
25	VAIZ	1964	1:28,000	60	VBYL	1968	1:24,000				
26	VAPK	1964	1:19,000	61	VBYM	1968	1:24,000				
27	VAQW	1964	1:24,000	62	VBYN	1968	1:24,000				
28	VART	1964	1:19,000	63	VBYO	1968	1:24,000				
29	VAWD	1964	1:27,000	64	VCCJ	1968	1:24,000				
30	VAWK	1964-65	1:24,000	65	VCCK	1968	1:24,000				
31	VAXM	1964	1:24,000	66	VBPF	1969	1:24,000				
32	VAYN	1964	1:19,000	67	VCCL ³	1969	1:22,000				
33	VAZB	1964	1:19,000	68	VCCN ³	1969	1:21,500				
34	VAZC	1964	1:27,000	69	VCEF	1969	1:24,000				
35	VAZK	1964	1:19,000	70	VCEG	1969	1:24,000				
36	VAZL	1964	1:20,000	71	VCEI	1969	1:24,000				

¹Focal length 3.5 inches

²Focal length 8.25 inches

³Focal length 12 inches

APPENDIX C

LAND USE INVENTORY

C-1

APPENDIX C

INDEX

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LAND-CAPABILITY CLASSIFICATION*

The land-capability classification scheme begins with the individual soil mapping units as the building stones of the system.

The capability grouping of soils is designed to (1) help landowners and others use and interpret the soil maps, (2) introduce users to the details of the soil map itself, and (3) make possible broad generalizations based on soil potentialities, limitations in use, and management problems.

The Capability Classification involves three major categories:

The Capability Unit is a grouping of soils that have about the same hazards for use, same influence on production and response to management, and about the same adaptations to common cultivated crops, pasture plants, and trees. (Inventory estimates are not summarized below the subclass category.)

The Capability Subclass is a grouping of capability units having similar kinds of limitations or hazards. In Virginia, three kinds of limitations or hazards are recognized: (1) erosion, (2) wetness, and (3) unfavorable soil conditions (indicated by the letters "e", "w", and "s" respectively).

Subclass "e" is confined to soils where susceptibility to erosion is the dominant problem. Subclass "w" includes soils having

poor drainage, high water table, and/or subject to overflow. Subclass "s" includes soils that are droughty because of sandiness, shallowness, or a very slowly permeable subsoil. The seriousness or intensity of these problems determines the Capability Class.

The Capability Class is the broad grouping of soils based on the risk of soil damage or limitations in use (indicated by I through VIII). The risks of soil damage or limitations in use become progressively greater from Class I to Class VIII. Soils in Classes I through IV are capable under good management of producing adapted plants - common cultivated crops, pasture plants, and forest trees. Soils in Classes V through VII should not normally be used for cultivated annual or short-lived crops but can be used for orchards, pasture, forest trees, or wildlife. Soils in Class VIII have practically no agricultural value. Included are such areas as rock outcrops, marshes and coastal beaches.

Class I soils are those with the widest range of use and the least risk of damage. They are level or nearly level, well drained, productive, and easy to work. They can be cultivated intensively with practically no risk of erosion and will remain productive if managed with normal care. (Obviously, since soils in this class have no limitations, it is the only class without subclasses).

Class II soils have some limitations that reduce the choice of plants or require moderate conservation practices. The limitations are few and practices are relatively easy to apply. These

soils may be used for cultivated crops, pasture, orchard, woodland, or for wildlife food and cover.

Class III soils have severe limitations that reduce the choice of plants or require special conservation practices, or both. Limitations may restrict the amount of clean cultivation; time of planting, tillage, and harvesting; choice of crops, or a combination of these items. They may also be used for pasture, orchards, woodland, or wildlife food and cover.

Class IV soils have very severe limitations that restrict the choice of cultivated crops, and require very careful management or both. When these soils are cultivated conservation practices are difficult to apply and maintain. This is a marginal class for cultivated crops but is generally suited for pasture, orchards, woodland, or wildlife food and cover.

Class V soils have little or no erosion problems but have other limitations that are impractical to correct. This limits their use largely to pasture, woodland, or wildlife food and cover. There is little of this kind of land in Virginia.

Class VI soils have limitations that make them generally unsuited for cultivation and limit their use primarily to pasture, woodland, or wildlife food and cover. Relative productivity of soils in this class vary widely depending upon individual soil features. Some soils in this class may be used for special crops, such as

sodded orchards.

Class VII soils have limitations that make them unsuited for cultivation and restrict their safe use largely to managed grazing, woodland, and wildlife food and cover. It is generally impractical to apply pasture improvements, such as seeding, liming, and fertilizing, and most soils in this class have low potential for timber production.

Class VIII soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, water supply, or aesthetic purposes.

*Taken from Virginia Conservation Needs Inventory of 1967
published by Virginia Polytechnic Institute Extension
Division. Publication 384, February, 1970, pages 18&19.

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

TABLE 1

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			FOREST					OTHER LAND		TOTAL	TOTAL LAND IN IN- VENTORY	
	PASTURE	RANGE	TOTAL	COMMER- CIAL	NON-COM- MERCIAL	TOTAL	COMMER- CIAL GRAZED	NON-COM- MERCIAL GRAZED	TOTAL GRAZED	IN FARMS			NOT IN FARMS
- CHARLES CITY -													
1	408	0	408	204	0	204	0	0	0	204	0	204	3953
2E	204	0	204	14675	0	14675	300	0	300	815	0	815	19486
3E	611	0	611	4688	0	4688	0	0	0	408	0	408	6519
4E	408	0	408	8764	0	8764	300	0	300	0	408	408	9784
6E	0	0	0	2446	0	2446	0	0	0	0	0	0	2446
7E	0	0	0	2038	0	2038	0	0	0	0	0	0	2038
2W	1223	0	1223	27312	0	27312	700	0	700	408	1019	1427	31859
3W	408	0	408	8764	0	8764	300	0	300	204	408	612	10773
4W	0	0	0	2854	0	2854	0	0	0	0	0	0	2854
5W	815	0	815	2650	0	2650	0	0	0	0	0	0	3826
6W	0	0	0	2446	0	2446	0	0	0	0	0	0	2446
8W	0	0	0	1019	0	1019	0	0	0	4892	0	4892	5911
2S	204	0	204	0	0	0	0	0	0	0	0	0	6026
3S	0	0	0	3057	0	3057	0	0	0	204	0	204	3983
4S	0	0	0	1834	0	1834	0	0	0	0	0	0	1834
6S	0	0	0	2242	0	2242	0	0	0	0	0	0	2242
TOTAL	4281	0	4281	84993	0	84993	1600	0	1600	7135	1835	8970	115980
- CHESAPEAKE -													
1	0	0	0	0	0	0	0	0	0	0	0	0	300
2E	0	0	0	299	0	299	0	0	0	0	0	0	299
3E	0	0	0	299	0	299	0	0	0	295	0	295	594
2W	295	0	295	4095	12	4107	197	0	197	0	0	0	9221
3W	3549	0	3549	34868	46	34914	1900	0	1900	431	592	1023	84563
4W	1479	0	1479	3192	11	3203	0	0	0	568	957	1525	16705
6W	0	0	0	600	0	600	0	0	0	0	0	0	600
7W	0	0	0	55080	29	55109	0	0	0	0	2887	2887	59736
8W	0	0	0	20299	0	20299	0	0	0	5500	296	5796	26095
2S	295	0	295	296	0	296	0	0	0	295	0	295	986
3S	0	0	0	600	1	601	0	0	0	0	295	295	896
8S	0	0	0	600	1	601	0	0	0	886	887	1773	3237
TOTAL	5618	0	5618	120228	100	120328	2097	0	2097	7975	5914	13889	203232
- CHESTERFIELD -													
1	0	0	0	847	0	847	0	0	0	0	0	0	2037
2E	1058	0	1058	87621	0	87621	1509	0	1509	1482	1482	2964	102353
3E	1058	0	1058	47426	0	47426	1000	0	1000	423	423	846	51832
4E	212	0	212	20726	0	20726	500	0	500	0	212	212	22876
6E	0	0	0	5926	0	5926	0	0	0	0	0	0	5926
7E	0	0	0	3598	0	3598	0	0	0	212	0	212	3810
2W	212	0	212	7196	0	7196	100	0	100	0	212	212	7858
3W	212	0	212	18837	0	18837	500	0	500	0	0	0	19525
4W	0	0	0	2751	0	2751	0	0	0	0	0	0	2751
5W	0	0	0	8043	0	8043	100	0	100	0	423	423	8824
6W	0	0	0	5291	0	5291	0	0	0	0	212	212	5503
7W	0	0	0	423	0	423	0	0	0	0	0	0	423
2S	2751	0	2751	635	0	635	0	0	0	423	0	423	4761
3S	0	0	0	212	0	212	0	0	0	0	0	0	688
4S	0	0	0	0	0	0	0	0	0	0	423	423	423
TOTAL	5503	0	5503	209532	0	209532	3709	0	3709	2540	3387	5927	239590

Source: Virginia Conservation Needs Inventory, of 1967, published by Virginia Polytechnic Institute Extension Division, Blacksburg, Virginia, Publication 384, February, 1970.

TABLE 1 (CONT'D)

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			FOREST			OTHER LAND			TOTAL		
	PASTURE	RANGE	TOTAL	COMMER- CIAL	NON-COM- MERCIAL	TOTAL	COMMER- CIAL GRAZED	NON-COM- MERCIAL GRAZED	TOTAL GRAZED	IN FARMS	NOT IN FARMS	TOTAL IN IN- VENTORY
<u>- DINWIDDIE -</u>												
1	0	0	0	0	0	0	0	0	0	0	0	2671
2E	4443	0	4443	86198	0	86198	6000	0	6000	0	0	121050
3E	2000	0	2000	73980	0	73980	3170	0	3170	2890	1607	87402
4E	222	0	222	13330	0	13330	0	0	0	0	0	14575
6E	0	0	0	4221	0	4221	0	0	0	0	0	4221
7E	0	0	0	222	0	222	0	0	0	0	0	222
2W	0	0	0	12664	0	12664	0	0	0	0	0	13875
3W	222	0	222	12441	0	12441	0	0	0	1443	802	16379
4W	0	0	0	1777	0	1777	0	0	0	0	0	1777
5W	0	0	0	9998	0	9998	0	0	0	0	0	10256
6W	444	0	444	11108	0	11108	0	0	0	0	0	11552
2S	0	0	0	2666	0	2666	0	0	0	0	0	3116
3S	222	0	222	8220	0	8220	0	0	0	0	0	8800
4S	0	0	0	2444	0	2444	0	0	0	0	0	2444
TOTAL	7953	0	7553	239269	0	239269	9170	0	9170	4333	2409	6742
<u>- GOOCHLAND -</u>												
1	0	0	0	0	0	0	0	0	0	0	0	2196
2E	9092	0	9092	54089	0	54089	1595	0	1595	954	0	80415
3E	3125	0	3125	19018	0	19018	0	0	0	238	438	29663
4E	4545	0	4545	15807	0	15807	796	0	796	0	438	27365
6E	5398	0	5398	7374	0	7374	6379	0	6379	0	0	14799
7E	0	0	0	6705	0	6705	0	0	0	0	0	7084
2W	568	0	568	1729	0	1729	0	0	0	0	0	2698
3W	568	0	568	2717	0	2717	0	0	0	0	0	5039
4W	284	0	284	2717	0	2717	0	0	0	0	0	3869
5W	0	0	0	988	0	988	0	0	0	0	0	988
6W	852	0	852	2964	0	2964	0	0	0	0	1315	5821
3S	284	0	284	0	0	0	0	0	0	0	0	284
7S	284	0	284	0	0	0	0	0	0	0	0	284
TOTAL	25000	0	25000	114108	0	114108	8770	0	8770	1192	2191	3383
<u>- GREENSVILLE -</u>												
1	0	0	0	3315	0	3315	0	0	0	313	122	6376
2E	1887	0	1887	35092	0	35092	1000	0	1000	1567	490	59744
3E	944	0	944	20579	0	20579	800	0	800	0	0	25284
4E	539	0	539	6065	0	6065	223	0	223	313	0	8299
6E	0	0	0	1299	0	1299	0	0	0	0	0	1299
2W	539	0	539	6715	333	7048	300	0	300	627	122	15429
3W	135	0	135	24195	0	24195	1000	0	1000	0	368	27408
4W	0	0	0	3466	0	3466	0	0	0	0	0	3640
5W	0	0	0	650	0	650	0	0	0	0	0	650
6W	270	0	270	12962	0	12962	0	0	0	0	0	13232
7W	0	0	0	8049	0	8049	0	0	0	0	0	8049
2S	539	0	539	12780	0	12780	0	0	0	313	245	18601
TOTAL	4853	0	4853	135167	333	135500	3323	0	3323	3133	1347	4480
<u>- HAMPTON -</u>												
1	205	0	205	0	0	0	0	0	0	0	0	453
7E	0	0	0	32	0	32	0	0	0	0	0	32
2W	0	0	0	240	0	240	0	0	0	0	331	638
3W	0	0	0	208	0	208	0	0	0	0	386	594
7W	0	0	0	48	0	48	0	0	0	634	0	682
TOTAL	205	0	205	528	0	528	0	0	0	634	717	1351

VPI Bulletin 384, February, 1970

TABLE 1 (CONT'D)

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			FOREST			TOTAL GRAZED	TOTAL IN FARMS	OTHER LAND NOT IN FARMS	TOTAL	TOTAL LAND IN IN- VENTORY	
	PASTURE	RANGE	TOTAL	COMMER- CIAL	NON-COM- MERCIAL	COMMER- CIAL GRAZED						
- HANCOCK -												
1	3309	0	3309	5986	0	5986	0	0	610	891	1501	20653
2E	8192	0	8192	54232	0	54232	0	0	3663	223	3886	51669
3E	315	0	315	18661	1062	19723	0	0	0	1114	1114	23114
4E	1103	0	1103	12857	0	12857	0	0	0	0	0	15744
6E	2206	0	2206	10753	0	10753	8000	0	8000	0	0	15040
7E	1260	0	1260	26883	425	27308	0	0	0	891	891	29950
2W	315	0	315	9584	0	9584	0	0	204	223	427	17634
3W	2206	0	2206	13688	0	13688	0	0	204	0	204	19115
4W	158	0	158	1637	213	1850	0	0	0	0	0	2191
5W	158	0	158	7247	0	7247	0	0	204	0	204	7772
6W	315	0	315	14493	0	14493	0	0	204	223	427	15724
7W	0	0	0	2806	0	2806	0	0	0	0	0	2806
2S	788	0	788	8650	0	8650	0	0	1114	1114	16792	
3S	0	0	0	4207	0	4207	0	0	204	891	1095	11612
8S	0	0	0	234	0	234	0	0	0	0	0	234
TOTAL	20825	0	20325	191918	1700	193618	8000	0	5293	5570	10863	290090
- HENRICO -												
1	0	0	0	0	0	0	0	0	554	1900	2454	3177
2E	2471	0	2471	18073	162	18235	758	0	277	4183	4460	34851
3E	1058	0	1058	23343	164	23507	769	0	1108	1521	2629	30437
4E	706	0	706	1744	61	1805	284	0	0	380	380	7792
6E	0	0	0	539	5	544	23	0	23	0	0	544
7E	0	0	0	1808	17	1905	79	0	79	0	0	1905
2W	0	0	0	13217	118	13335	554	0	0	380	380	16109
3W	0	0	0	12441	85	12526	396	0	0	0	0	13899
4W	0	0	0	2664	51	2715	233	0	0	0	0	2715
5W	1765	0	1765	1549	12	1561	57	0	57	0	0	3126
6W	0	0	0	2427	22	2449	102	0	102	0	0	2449
2S	0	0	0	270	3	273	11	0	11	0	0	765
TOTAL	6000	0	6000	77955	700	78655	3266	0	1939	8364	10303	117769
- ISLE OF WIGHT -												
1	0	0	0	1556	0	1556	0	0	0	0	0	6274
2E	436	0	436	9782	0	9782	0	0	436	0	436	20006
3E	0	0	0	1334	0	1334	436	0	0	0	0	2097
4E	0	0	0	1112	0	1112	436	0	0	0	0	1311
6E	653	0	653	1111	0	1111	218	0	0	0	0	1764
7E	0	0	0	17563	0	17563	436	0	436	218	218	17980
2W	3049	0	3049	35126	0	35126	1525	0	653	465	1118	66483
3W	218	0	218	16007	0	16007	1307	0	0	0	0	19868
6W	436	0	436	0	0	0	0	0	0	0	0	436
7W	0	0	0	11783	0	11783	654	0	0	6732	6732	18515
8W	0	0	0	5114	0	5114	0	0	0	0	0	5114
2S	218	0	218	8448	0	8448	436	0	436	0	436	24996
3S	871	0	871	9782	0	9782	0	0	218	0	218	15314
4S	0	0	0	223	0	223	0	0	0	0	0	223
TOTAL	5881	0	5881	118941	0	118941	5448	0	1961	7197	9158	200388

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TABLE 1 (CONT'D)

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			FOREST					OTHER LAND		TOTAL IN IN- VENTORY	
	PASTURE	RANGE	TOTAL	COMMER- CIAL	NON-COM- MERCIAL	TOTAL	COMMER- CIAL GRAZED	NON-COM- MERCIAL GRAZED	TOTAL GRAZED	IN FARMS		NOT IN FARMS
— JAMES CITY —												
1	0	0	0	207	6	213	0	0	0	0	0	213
2E	407	0	407	5175	148	5323	207	0	207	0	207	7711
3E	0	0	0	414	13	427	207	0	207	105	0	1843
4E	0	0	0	0	0	0	0	0	0	0	0	614
6E	814	0	814	207	6	213	0	0	0	0	0	1027
7E	0	0	0	23596	673	24269	1449	0	1449	0	207	24476
2W	0	0	0	6830	196	7026	0	0	0	0	0	7670
3W	0	0	0	1242	36	1278	0	0	0	0	0	1278
6W	0	0	0	3312	90	3402	0	0	0	0	621	4023
7W	0	0	0	828	25	853	0	0	0	0	207	1060
8W	0	0	0	0	0	0	0	0	0	3444	0	3444
2S	814	0	814	13040	372	13412	0	0	0	523	1863	23046
3S	0	0	0	4347	124	4471	207	0	207	0	1863	7000
6S	0	0	0	414	11	425	0	0	0	0	207	632
TOTAL	2035	0	2035	59612	1700	61312	2070	0	2070	4072	5175	9247
— NANSEMOND —												
1	0	0	0	583	0	583	0	0	0	0	0	2012
2E	536	0	536	13112	0	13112	159	0	159	268	0	23260
3E	804	0	804	291	0	291	0	0	0	268	0	1622
4E	0	0	0	0	0	0	0	0	0	0	0	115
6E	0	0	0	0	0	0	0	0	0	0	0	976
7E	0	0	0	9032	0	9032	0	0	0	0	268	9300
2W	1876	0	1876	38076	0	38076	1800	0	1800	3752	0	82376
3W	536	0	536	27202	0	27202	2068	0	2068	0	0	31975
5W	268	0	268	0	0	0	0	0	0	0	0	268
6W	268	0	268	2906	0	2906	0	0	0	268	0	3642
7W	0	0	0	54230	0	54230	0	0	0	0	0	54230
8W	0	0	0	2000	0	2000	0	0	0	0	4020	6020
2S	804	0	804	5245	0	5245	0	0	0	0	0	11525
3S	268	0	268	6992	0	6992	0	0	0	0	0	12694
4S	268	0	268	0	0	0	0	0	0	0	0	268
8S	0	0	0	1166	0	1166	0	0	0	0	0	1166
TOTAL	5628	0	5628	160835	0	160835	4027	0	4027	4556	4288	8844
— NEW KENT —												
1	0	0	0	1497	11	1508	0	0	0	0	0	1883
2E	816	0	816	13175	98	13273	0	0	0	224	164	17760
3E	326	0	326	745	7	752	0	0	0	0	27	1958
4E	163	0	163	2982	23	3005	0	0	0	0	54	4534
6E	816	0	816	12182	91	12273	224	0	224	0	0	13065
7E	164	0	164	27098	203	27301	0	0	0	0	248	27713
2W	0	0	0	12182	90	12272	0	0	0	447	218	17065
3W	0	0	0	1740	12	1752	0	0	0	0	109	1861
5W	0	0	0	1491	12	1503	0	0	0	0	0	1503
6W	0	0	0	5220	38	5258	0	0	0	0	54	5312
7W	0	0	0	6960	51	7011	0	0	0	0	0	7011
8W	0	0	0	0	0	0	0	0	0	6049	0	6049
2S	653	0	653	12679	95	12774	224	0	224	0	327	14425
3S	0	0	0	6463	48	6511	447	0	447	0	354	7678
4S	0	0	0	249	2	251	0	0	0	0	0	251
6S	0	0	0	2486	19	2505	0	0	0	0	55	2560
TOTAL	2938	0	2938	107149	800	107949	895	0	895	8720	1610	10330

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TABLE 1 (CONT'D)

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			COMMER- CIAL	NON-COM- MERCIAL	FOREST			TOTAL GRAZED	OTHER LAND		TOTAL	TOTAL LAND IN IN- VENTORY
	PASTURE	RANGE	TOTAL			TOTAL	COMMER- CIAL GRAZED	NON-COM MERCIAL GRAZED		IN FARMS	NOT IN FARMS		
- NEWPORT NEWS -													
2E	0	0	0	0	0	0	0	0	0	0	59	59	59
7E	0	0	0	191	0	191	0	0	0	29	29	58	249
2W	309	0	309	223	0	223	0	0	0	236	59	255	1177
3W	231	0	231	318	0	318	0	0	0	59	383	442	1166
6W	0	0	0	31	0	31	0	0	0	88	29	117	148
TOTAL	540	0	540	763	0	763	0	0	0	412	559	971	2799
- POWHATAN -													
1	1233	0	1233	0	0	0	0	0	0	0	0	0	1664
2E	3700	0	3700	41007	0	41007	2220	0	2220	668	4275	5163	63172
3E	3083	0	3083	42594	0	42594	2220	0	2220	0	1710	1710	53749
4E	462	0	462	23336	0	23336	444	0	444	222	0	222	25574
6E	1387	0	1387	4304	0	4304	1554	0	1554	0	0	0	6371
7E	308	0	308	5437	0	5437	0	0	0	0	0	0	6385
2W	154	0	154	227	0	227	0	0	0	0	0	0	603
3W	1077	0	1077	3398	0	3398	0	0	0	0	0	0	5585
4W	462	0	462	680	0	680	0	0	0	0	0	0	1142
5W	0	0	0	1132	0	1132	0	0	0	0	0	0	1354
6W	0	0	0	1811	0	1811	444	0	444	0	0	0	1811
TOTAL	11866	0	11866	123926	0	123926	6882	0	6882	1110	5985	7095	167410
- PRINCE GEORGE -													
1	0	0	0	2822	0	2822	0	0	0	0	0	0	3081
2E	1341	0	1341	21810	0	21810	800	0	800	0	187	187	34884
3E	0	0	0	15348	0	15348	0	0	0	0	0	0	16622
4E	0	0	0	12935	0	12935	0	0	0	0	0	0	15436
6E	0	0	0	3293	0	3293	300	0	300	0	0	0	4591
7E	0	0	0	2587	0	2587	291	0	291	0	3002	3002	5589
2W	1676	0	1676	28038	0	28038	900	0	900	235	563	798	41136
3W	0	0	0	18763	0	18763	0	0	0	0	0	0	19164
5W	0	0	0	2117	0	2117	0	0	0	0	187	187	2304
6W	0	0	0	3668	0	3668	500	0	500	0	0	0	3668
7W	0	0	0	6820	0	6820	0	0	0	0	0	0	7079
8W	0	0	0	800	0	800	0	0	0	0	0	0	800
2S	335	0	335	4939	0	4939	0	0	0	470	0	470	9518
3S	0	0	0	2352	0	2352	0	0	0	0	0	0	2870
4S	0	0	0	235	0	235	0	0	0	0	0	0	235
TOTAL	3352	0	3352	126527	0	126527	2791	0	2791	705	3939	4644	166977

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TABLE 1 (CONT'D)

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			FOREST			OTHER LAND			TOTAL	TOTAL LAND IN IN- VENTORY	
	PASTURE	RANGE	TOTAL	COMMER- CIAL	NON-COM- MERCIAL	TOTAL	COMMER- CIAL GRAZED	NON-COM MERCIAL GRAZED	TOTAL GRAZED			IN FARMS
- SOUTHAMPTON -												
1	688	0	688	557	0	557	0	0	0	0	1225	10043
2E	1547	0	1547	19357	0	19357	1000	0	1000	0	0	39090
3E	0	0	0	15129	0	15129	1000	0	1000	594	0	17399
4E	0	0	0	5340	0	5340	0	0	0	0	0	6589
6E	0	0	0	3115	0	3115	0	0	0	0	0	3799
7E	171	0	171	6675	0	6675	0	0	0	0	0	6846
2W	5845	0	5845	64842	0	64842	4200	0	4200	0	0	107170
3W	1547	0	1547	58840	0	58840	3802	0	3802	0	0	69115
4W	0	0	0	445	0	445	0	0	0	0	0	645
6W	0	0	0	4804	0	4804	0	0	0	0	0	5288
7W	172	0	172	30926	0	30926	1500	0	1500	0	0	31380
2S	515	0	515	21804	0	21804	300	0	300	1190	0	45206
3S	515	0	515	21136	0	21136	300	0	300	1784	0	37608
4S	0	0	0	1335	0	1335	0	0	0	0	0	1823
TOTAL	11000	0	11000	254305	0	254305	12102	0	12102	3568	1225	4793
- SURRY -												
1	0	0	0	1262	2	1264	0	0	0	243	0	3726
2E	487	0	487	35234	192	35426	1925	0	1925	0	487	49577
3E	243	0	243	2364	15	2379	0	0	0	0	0	5115
4E	0	0	0	491	31	522	0	0	0	0	0	1969
6E	0	0	0	7931	54	7985	0	0	0	243	0	9297
7E	0	0	0	16286	102	16388	0	0	0	0	0	16388
2W	0	0	0	30209	188	30397	0	0	0	0	243	35972
3W	243	0	243	1051	7	1058	0	0	0	0	0	2864
6W	0	0	0	0	23	23	0	0	0	0	0	23
7W	0	0	0	9720	61	9781	0	0	0	730	3651	16601
8W	0	0	0	3678	0	3678	0	0	0	0	0	3678
2S	243	0	243	12347	77	12424	0	0	0	0	243	22288
3S	0	0	0	5517	34	5551	0	0	0	0	0	7776
4S	0	0	0	262	2	264	0	0	0	0	0	469
TOTAL	1216	0	1216	126352	788	127140	1925	0	1925	1216	4867	6083
- SUSSEX -												
1	221	0	221	2000	0	2000	0	0	0	441	0	5531
2E	1766	0	1766	27586	0	27586	800	0	800	221	1103	44360
3E	0	0	0	22496	0	22496	800	0	800	0	0	22938
4E	1103	0	1103	14124	0	14124	400	0	400	441	221	17213
7E	0	0	0	0	0	0	0	0	0	0	1766	1766
2W	3310	0	3310	39724	0	39724	1065	0	1065	221	883	57380
3W	441	0	441	36649	0	36649	1000	0	1000	0	0	37752
4W	441	0	441	3310	0	3310	0	0	0	0	0	3972
5W	662	0	662	10593	0	10593	100	0	100	0	221	11476
6W	221	0	221	21848	0	21848	800	0	800	221	0	22290
7W	0	0	0	11345	0	11345	100	0	100	0	0	11345
8W	0	0	0	1000	0	1000	0	0	0	0	0	1000
2S	662	0	662	43918	0	43918	700	0	700	883	883	62898
3S	0	0	0	5517	0	5517	0	0	0	0	441	10372
7S	0	0	0	221	0	221	0	0	0	0	0	221
TOTAL	8827	0	8827	240331	0	240331	5765	0	5765	2428	5518	7946

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TABLE 7 (CONT'D)

PASTURE AND RANGE, FOREST AND OTHER LAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	PASTURE AND RANGE			COMMER- CIAL	NON-COM- MERCIAL	FOREST			TOTAL GRAZED	OTHER LAND		TOTAL	TOTAL LAND IN IN- VENTORY
	PASTURE	RANGE	TOTAL			COMMER- CIAL GRAZED	NON-COM MERCIAL GRAZED	IN FARMS		NOT IN FARMS			
-- VIRGINIA BEACH --													
1	0	0	0	310	0	310	0	0	0	0	309	309	16540
2E	0	0	0	310	0	310	0	0	0	927	0	927	3447
6E	0	0	0	0	0	0	0	0	0	0	309	309	309
2W	849	0	849	1415	650	2065	0	0	0	1545	1236	2781	18276
3W	3030	0	3030	12254	0	12254	1073	0	1073	2064	618	2682	52156
6W	0	0	0	0	0	0	0	0	0	309	0	309	309
7W	121	0	121	31209	1950	33159	0	0	0	1855	309	2164	35444
8W	0	0	0	2000	0	2000	0	0	0	4736	0	4736	6736
TOTAL	4000	0	4000	47498	2600	50098	1073	0	1073	11436	2781	14217	133217
-- YORK --													
1	89	0	89	1649	0	1649	0	0	0	0	150	150	1893
2E	0	0	0	2549	0	2549	0	0	0	98	0	98	2647
6E	0	0	0	750	0	750	0	0	0	0	0	0	750
7E	0	0	0	3148	0	3148	0	0	0	0	0	0	3148
2W	267	0	267	3748	0	3748	0	0	0	97	750	847	5503
3W	0	0	0	4347	0	4347	0	0	0	976	450	1426	5773
8W	0	0	0	1949	0	1949	0	0	0	1757	0	1757	3706
2S	178	0	178	2998	0	2998	0	0	0	0	600	600	4722
3S	266	0	266	1349	0	1349	0	0	0	391	150	541	2892
TOTAL	800	0	800	22487	0	22487	0	0	0	3319	2100	5419	31034

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TABLE 2

CROPLAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	ALL ROW CROPS	CROPLAND IN TILLAGE ROTATION					CONSER- VATION USE ONLY	TEMPORAR- ILY IDLE CROPLAND	TOTAL TILLAGE ROTATION	ORCHARDS VINEYARDS AND BUSH FRUIT	OPEN LAND FORMERLY CROPPED	TOTAL CROPLAND
		FIELD CLOSE GROWN CROPS	CROPS SUMMER FALLOW	TOTAL FIELD CROPS	ROTATION HAY AND PASTURE	HAYLAND						
-- CHARLES CITY --												
1	2526	611	0	3137	0	0	0	0	3137	0	0	3137
2E	1961	1019	0	2980	608	0	0	0	3588	0	204	3792
3E	204	0	0	204	608	0	0	0	812	0	0	812
4E	0	0	0	0	0	0	204	0	204	0	0	204
2W	878	815	0	1693	0	0	0	204	1897	0	0	1897
3W	989	0	0	989	0	0	0	0	989	0	0	989
5W	157	204	0	361	0	0	0	0	361	0	0	361
2S	4110	0	0	4110	304	1408	0	0	5822	0	0	5822
3S	314	0	0	314	0	0	0	408	722	0	0	722
TOTAL	11139	2649	0	13788	1520	1408	204	612	17532	0	204	17736
-- CHESAPEAKE --												
1	0	0	0	0	5	0	0	295	300	0	0	300
2W	4252	0	0	4252	71	0	0	296	4619	200	0	4819
3W	34802	5704	0	40506	729	591	2067	1184	45077	0	0	45077
4W	7054	1630	0	8684	160	0	1654	0	10498	0	0	10498
7W	1718	0	0	1718	22	0	0	0	1740	0	0	1740
2S	0	0	0	0	0	0	0	0	0	100	0	100
8S	850	0	0	850	13	0	0	0	863	0	0	863
TOTAL	48676	7334	0	56010	1000	591	3721	1775	63097	300	0	63397
-- DINWIDDIE --												
1	1121	861	0	1982	466	0	0	222	2670	1	0	2671
2E	13953	4476	0	18429	5521	1777	0	4443	30170	17	222	30409
3E	2468	861	0	3329	1148	667	0	1777	6921	4	0	6925
4E	449	172	0	621	179	0	0	222	1022	1	0	1023
2W	3375	172	0	3547	1183	444	1611	222	7607	4	0	7011
3W	1011	172	0	1183	287	0	0	0	1470	1	0	1471
5W	0	0	0	0	36	0	0	222	258	0	0	258
2S	341	0	0	341	108	0	0	0	449	1	0	450
3S	113	172	0	285	72	0	0	0	357	1	0	358
TOTAL	22831	6886	0	29717	9000	2888	1611	7108	50324	30	222	50576
-- GOOCHLAND --												
1	1431	0	0	1431	527	0	238	0	2196	0	0	2196
2E	4195	3900	0	8095	1317	4237	954	913	15516	0	764	16280
3E	653	867	0	1520	2108	1466	238	366	5698	0	1446	6844
4E	1368	1734	0	3102	527	1793	715	183	6320	0	255	6575
6E	238	434	0	672	263	488	477	0	1900	0	127	2027
7E	0	216	0	216	0	163	0	0	379	0	0	379
2W	238	0	0	238	0	163	0	0	401	0	0	401
3W	1192	216	0	1408	0	163	0	183	1754	0	0	1754
4W	652	216	0	868	0	0	0	0	868	0	0	868
6W	0	0	0	0	527	163	0	0	690	0	0	690
TOTAL	9967	7583	0	17550	5269	8636	2622	1645	35722	0	2292	38014

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TABLE 2 (CONT'D)

CROPLAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	ALL ROW CROPS	CROPLAND IN TILLAGE ROTATION			ROTATION HAY AND PASTURE	PASTURE	CONSER- VATION USE ONLY	TEMPORAR- ILY IDLE CROPLAND	TOTAL TILLAGE ROTATION	ORCHARDS VINEYARDS AND BUSH FRUIT	OPEN LAND FORMERLY CROPPED	TOTAL CROPLAND
		FIELD CROPS CLOSE GROWN CROPS	SUMMER FALLOW	TOTAL FIELD CROPS								
-GREENSVILLE-												
1	1931	0	0	1931	0	0	0	695	2626	0	0	2626
2E	15387	846	0	16233	250	213	881	3131	20708	0	0	20708
3E	1807	508	0	2315	250	0	0	696	3261	0	500	3761
4E	686	0	0	686	0	0	0	696	1382	0	0	1382
2W	4142	677	0	4819	0	0	2100	174	7093	0	0	7093
3W	1136	0	0	1136	0	0	1400	174	2710	0	0	2710
4W	0	0	0	0	0	0	0	174	174	0	0	174
2S	3707	169	0	3876	0	0	500	348	4724	0	0	4724
TOTAL	28796	2200	0	30996	500	213	4681	6088	42678	0	500	43178
-HAMPTON-												
1	153	0	47	200	0	0	0	28	228	20	0	248
2W	0	0	0	0	0	25	4	28	57	10	0	67
TOTAL	153	0	47	200	0	25	4	56	285	30	0	315
-HANOVER-												
1	5916	2775	0	8691	385	0	375	446	9897	0	0	9897
2E	11123	3295	0	14418	2691	3704	981	3565	25359	0	0	25359
3E	236	1041	0	1277	385	0	77	223	1962	0	0	1962
4E	471	173	0	644	0	617	77	446	1784	0	0	1784
6E	474	520	0	994	385	617	85	0	2081	0	0	2081
7E	474	0	0	474	0	0	17	0	491	0	0	491
2W	3545	2428	0	5973	385	0	282	668	7308	0	0	7308
3W	1423	694	0	2117	0	772	128	0	3017	0	0	3017
4W	0	174	0	174	0	0	9	0	183	0	0	183
5W	0	0	0	0	0	154	9	0	163	0	0	163
6W	472	0	0	472	0	0	17	0	489	0	0	489
2S	4738	520	0	5258	769	0	213	0	6240	0	0	6240
3S	5213	867	0	6080	0	0	230	0	6310	0	0	6310
TOTAL	34085	12487	0	46572	5000	5864	2500	5348	65284	0	0	65284
-HENRICO-												
1	0	0	0	0	0	259	40	424	723	0	0	723
2E	4894	1650	0	6544	0	1708	262	678	9192	0	493	9685
3E	877	689	0	1566	0	725	112	594	2997	0	246	3243
4E	2908	412	0	3320	0	517	80	0	3917	0	984	4901
2W	277	687	0	964	0	518	80	339	1901	0	493	2394
3W	0	412	0	412	0	259	40	170	881	0	492	1373
2S	0	0	0	0	0	0	0	0	0	0	492	492
TOTAL	8956	3850	0	12806	0	3986	614	2205	19611	0	3200	22811

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TABLE 2 (CONT'D)

CROPLAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	ALL ROW CROPS	FIELD CROPS CLOSE GROWN CROPS	SUMMER FALLOW	CROPLAND IN TILLAGE ROTATION TOTAL FIELD CROPS	ROTATION MAY AND PASTURE	HAYLAND	CONSER- VATION USE ONLY	TEMPORAR- ILY IDLE CROPLAND	TOTAL TILLAGE ROTATION	ORCHARDS VINEYARDS AND BUSH FRUIT	OPEN LAND FORMERLY CROPPED	TOTAL CROPLAND
<u>ISLE OF WIGHT</u>												
1	3607	653	0	4260	436	0	0	0	4696	27	0	4723
2E	8648	218	0	8866	0	218	0	218	9302	52	0	9354
3E	759	0	0	759	0	0	0	0	759	4	0	763
4E	198	0	0	198	0	0	0	0	198	1	0	199
7E	198	0	0	198	0	0	0	0	198	1	0	199
2W	20982	1089	0	22071	436	0	4544	0	27051	139	0	27190
3W	3622	0	0	3622	0	0	0	0	3622	21	0	3643
2S	13538	0	0	13538	0	0	2272	0	15810	84	0	15894
3S	2849	436	0	3285	0	0	1137	0	4422	21	0	4443
TOTAL	54401	2396	0	56797	872	218	7953	218	66058	350	0	66408
<u>JAMES CITY</u>												
2E	796	0	0	796	800	40	138	0	1774	0	0	1774
3E	763	0	0	763	400	33	115	0	1311	0	0	1311
4E	524	0	0	524	0	20	70	0	614	0	0	614
2W	555	0	0	555	0	20	69	0	644	0	0	644
2S	3718	1400	0	5118	0	167	576	414	6275	159	0	6434
3S	524	0	0	524	0	20	69	0	613	53	0	666
TOTAL	6880	1400	0	8280	1200	300	1037	414	11231	212	0	11443
<u>NANSEMOND</u>												
1	1131	0	0	1131	0	0	244	54	1429	0	0	1429
2E	7865	0	0	7865	0	0	1372	107	9344	0	0	9344
3E	228	0	0	228	0	0	31	0	259	0	0	259
4E	0	0	0	0	0	0	61	54	115	0	0	115
6E	853	0	0	853	0	0	123	0	976	0	0	976
2W	31230	2123	0	33353	0	0	5185	134	38672	0	0	38672
3W	1638	2123	0	3761	0	0	396	80	4237	0	0	4237
6W	169	0	0	169	0	0	31	0	200	0	0	200
2S	4625	0	0	4625	0	0	824	27	5476	0	0	5476
3S	4701	0	0	4701	0	0	733	0	5434	0	0	5434
TOTAL	52440	4246	0	56686	0	0	9000	456	66142	0	0	66142
<u>NEW KENT</u>												
1	342	0	0	342	0	0	33	0	375	0	0	375
2E	1538	474	0	2012	250	488	282	251	3283	0	0	3283
3E	0	475	0	475	250	0	66	62	853	0	0	853
4E	1151	0	0	1151	0	0	99	62	1312	0	0	1312
2W	2673	946	0	3619	125	0	199	125	4068	0	0	4068
2S	638	0	0	638	0	0	33	0	671	0	0	671
3S	638	0	0	638	125	0	50	0	813	0	0	813
TOTAL	6980	1895	0	8875	750	488	762	500	11375	0	0	11375

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TABLE 2 (CONT'D)

CROPLAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	ALL ROW CROPS	FIELD CROPS CLOSE GROWN CROPS	SUMMER FALLOW	CROPLAND IN TILLAGE ROTATION TOTAL FIELD CROPS	ROTATION HAY AND PASTURE	HAYLAND	CONSER- VATION USE ONLY	TEMPORAR- ILY IDLE CROPLAND	TOTAL TILLAGE ROTATION	ORCHARDS VINEYARDS AND BUSH FRUIT	OPEN LAND FORMERLY CROPPED	TOTAL CROPLAND
-NEWPORT NEWS-												
2W	200	150	0	350	0	0	0	0	350	0	0	350
3W	150	25	0	175	0	0	0	0	175	0	0	175
TOTAL	350	175	0	525	0	0	0	0	525	0	0	525
-POWHATAN-												
1	209	222	0	431	0	0	0	0	431	0	0	431
2E	2989	1998	0	4987	1776	2442	1655	1332	12192	0	1110	13302
3E	1879	222	0	2101	444	1554	709	1110	5918	0	444	6362
4E	0	444	0	444	0	666	0	0	1110	0	444	1554
6E	0	444	0	444	0	0	236	0	680	0	0	680
7E	418	222	0	640	0	0	0	0	640	0	0	640
2W	0	0	0	0	0	222	0	0	222	0	0	222
3W	0	888	0	888	0	222	0	0	1110	0	0	1110
5W	0	0	0	0	222	0	0	0	222	0	0	222
TOTAL	5495	4440	0	9935	2442	5106	2600	2442	22525	0	1998	24523
-PRINCE GEORGE-												
1	259	0	0	259	0	0	0	0	259	0	0	259
2E	9833	0	0	9833	0	235	483	995	11546	0	0	11546
3E	1274	0	0	1274	0	0	0	0	1274	0	0	1274
4E	1698	803	0	2501	0	0	0	0	2501	0	0	2501
6E	896	402	0	1298	0	0	0	0	1298	0	0	1298
2W	4174	402	0	4576	0	2352	2417	1279	10624	0	0	10624
3W	0	401	0	401	0	0	0	0	401	0	0	401
7W	259	0	0	259	0	0	0	0	259	0	0	259
2S	3372	402	0	3774	0	0	0	0	3774	0	0	3774
3S	518	0	0	518	0	0	0	0	518	0	0	518
TOTAL	22283	2410	0	24693	0	2587	2900	2274	32454	0	0	32454
-SOUTHAMPTON-												
1	7072	0	0	7072	0	12	487	0	7571	2	0	7573
2E	14825	1312	0	16137	0	33	1952	23	18145	4	37	18186
3E	200	0	0	200	0	2	1463	11	1676	0	0	1676
4E	1247	0	0	1247	0	2	0	0	1249	0	0	1249
6E	682	0	0	682	0	1	0	0	683	1	0	684
2W	29886	1312	0	31198	300	65	4880	33	36476	7	0	36483
3W	7460	750	0	8210	0	18	487	11	8726	2	0	8728
4W	200	0	0	200	0	0	0	0	200	0	0	200
6W	482	0	0	482	0	1	0	0	483	1	0	484
7W	282	0	0	282	0	0	0	0	282	0	0	282
2S	16237	1500	0	17737	0	40	3904	11	21692	5	0	21697
3S	9555	1126	0	10681	0	25	3415	11	14132	3	38	14173
4S	0	0	0	0	0	1	487	0	488	0	0	488
TOTAL	88128	6000	0	94128	300	200	17075	100	111803	25	75	111903

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TABLE 2 (CONT'D)

CROPLAND ACRES BY LAND CAPABILITY CLASSES - 1967

LAND CAPABILITY CLASS SUB-CLASS	ALL ROW CROPS	FIELD CROPS CLOSE GROWN CROPS	SUMMER FALLOW	CROPLAND IN TILLAGE ROTATION TOTAL FIELD CROPS	ROTATION HAY AND PASTURE	HAYLAND	CONSER- VATION USE ONLY	TEMPORAR- ILY IDLE CROPLAND	TOTAL TILLAGE ROTATION	ORCHARDS VINEYARDS AND BUSH FRUIT	OPEN LAND FORMERLY CROPPED	TOTAL CROPLAND
- SURRY -												
1	2219	0	0	2219	0	0	0	0	2219	0	0	2219
2E	10989	0	0	10989	223	152	0	1798	13162	15	0	13177
3E	1398	709	0	2107	223	0	0	163	2493	0	0	2493
4E	0	0	0	0	223	0	0	981	1204	0	0	1204
6E	742	0	0	742	0	0	0	327	1069	0	0	1069
2W	4782	0	0	4782	223	0	0	327	5332	0	0	5332
3W	1563	0	0	1563	0	0	0	0	1563	0	0	1563
7W	0	1421	0	1421	0	0	1018	0	2439	0	0	2439
2S	8484	0	0	8484	223	0	508	163	9378	0	0	9378
3S	1898	0	0	1898	0	0	0	327	2225	0	0	2225
4S	205	0	0	205	0	0	0	0	205	0	0	205
TOTAL	32280	2130	0	34410	1115	152	1526	4086	41289	15	0	41304
- SUSSEX -												
1	2424	0	0	2424	0	0	440	5	2869	0	0	2869
2E	11333	0	0	11333	0	221	2104	26	13684	0	0	13684
3E	371	0	0	371	0	0	68	3	442	0	0	442
4E	1118	0	0	1118	0	0	203	3	1324	0	0	1324
2W	11186	0	0	11186	0	0	2035	21	13242	0	0	13242
3W	557	0	0	557	0	0	102	3	662	0	0	662
4W	186	0	0	186	0	0	34	1	221	0	0	221
2S	13977	0	0	13977	0	0	2544	31	16552	0	0	16552
3S	3728	0	0	3728	0	0	678	8	4414	0	0	4414
TOTAL	44880	0	0	44880	0	221	8208	101	53410	0	0	53410
- VIRGINIA BEACH -												
1	11096	2910	0	14006	384	0	1446	0	15836	13	72	15921
2E	808	727	0	1535	65	0	246	350	2196	2	12	2210
2W	8219	1940	0	10159	310	0	1169	875	12513	9	59	12581
3W	20137	4123	0	24260	833	0	3139	5775	34007	26	157	34190
TOTAL	40260	9700	0	49960	1592	0	6000	7000	64552	50	300	64902

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TABLE 3

CONSERVATION TREATMENT NEEDS - CROPLAND IN TILLAGE ROTATION (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TREATMENT ADEQUATE (IRRIGATED AND NON- IRRIGATED)	RESIDUE AND ANNUAL COVER	SOO IN ROTATION	NON-IRRIGATED CROPLAND CONTOUR- ING ONLY	STRIP CROPPING TERRACING DIVERSIONS	PERMANENT COVER	DRAINAGE	CULTURAL MANAGEMENT PRACTICES ONLY	IRRIGATED CROPLAND IMPROVED SYSTEMS	WATER MANAGE- MENT	TOTAL TILLAGE ROTATION
<u>CHESAPEAKE</u>											
1	2005	1489	0	0	0	0	0	0	0	0	3494
2E	7231	249	1498	1745	11676	0	0	0	0	0	22397
3E	5230	0	0	956	8462	0	0	0	0	0	14648
4E	1851	0	0	0	2987	0	0	0	0	0	4838
6E	996	0	0	0	996	262	0	0	0	0	2254
7E	0	0	0	0	0	498	0	0	0	0	498
3H	249	249	0	0	0	0	249	0	0	0	747
5W	0	0	0	0	0	442	0	0	0	0	442
6W	249	0	0	0	0	442	249	0	0	0	940
7S	0	0	0	0	0	281	0	0	0	0	281
TOTAL	17811	1987	1498	2699	24121	1925	498	0	0	0	50539
<u>CHARLES CITY</u>											
1	2137	1000	0	0	0	0	0	0	0	0	3137
2E	588	800	996	900	100	204	0	0	0	0	3588
3E	50	0	0	50	412	300	0	0	0	0	812
4E	0	0	0	0	0	204	0	0	0	0	204
2W	555	0	0	0	0	204	1138	0	0	0	1897
3W	94	0	0	0	0	100	795	0	0	0	989
5W	0	0	0	0	0	0	361	0	0	0	361
2S	3697	1000	725	400	0	0	0	0	0	0	5822
3S	160	140	0	100	200	122	0	0	0	0	722
TOTAL	7281	2940	1721	1450	712	1134	2294	0	0	0	17532
<u>CHESTERFIELD</u>											
1	635	423	0	0	0	0	0	0	0	0	1058
2E	3223	3042	300	2800	0	0	0	0	0	0	9365
3E	830	100	0	200	862	166	0	0	0	0	2158
4E	69	378	0	0	690	378	0	0	0	0	1515
2W	0	0	0	0	0	0	212	0	0	0	212
3W	0	100	0	0	0	0	324	0	0	0	424
5W	0	0	0	0	0	53	252	0	0	0	305
2S	847	0	0	0	0	0	0	0	0	0	847
3S	212	212	0	0	0	0	0	0	0	0	424
TOTAL	5816	4255	300	3000	1552	597	788	0	0	0	16308
<u>DINWIDDIE</u>											
1	1643	0	0	822	0	0	205	0	0	0	2670
2E	6465	1370	988	10290	10281	980	196	0	0	0	30170
3E	1515	217	432	216	4109	432	0	0	0	0	6921
4E	0	0	0	408	614	0	0	0	0	0	1022
2W	3822	212	0	699	0	0	2274	0	0	0	7007
3W	367	184	0	0	0	0	919	0	0	0	1470
5W	0	0	0	0	0	258	0	0	0	0	258
2S	300	0	0	149	0	0	0	0	0	0	449
3S	0	0	0	179	178	0	0	0	0	0	357
TOTAL	14112	1983	1020	12763	15182	1670	3594	0	0	0	50324

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CONSERVATION TREATMENT NEEDS - CROPLAND IN TILLAGE ROTATION (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TREATMENT ADEQUATE (IRRIGATED AND NON- IRRIGATED)	RESIDUE AND ANNUAL COVER	SOD IN ROTATION	NON-IRRIGATED CROPLAND CONTOUR- ING ONLY	STRIP CRUDDING TERRACING DIVERSIONS	PERMANENT COVER	DRAINAGE	CULTURAL MANAGEMENT PRACTICES ONLY	IRRIGATED CROPLAND IMPROVED SYSTEMS	WATER MANAGE- MENT	TOTAL TILLAGE ROTATION
- GOOCHLAND -											
1	1464	732	0	0	0	0	0	0	0	0	2196
2E	6011	4849	2328	388	1746	0	194	0	0	0	15516
3E	2744	633	1055	0	1055	211	0	0	0	0	5698
4E	2651	611	1019	0	1631	204	204	0	0	0	6320
6E	844	423	210	0	423	0	0	0	0	0	1900
7E	189	0	190	0	0	0	0	0	0	0	379
2W	200	0	0	0	0	0	201	0	0	0	401
3W	219	658	219	0	219	0	439	0	0	0	1754
4W	0	433	0	0	0	0	435	0	0	0	868
6W	690	0	0	0	0	0	0	0	0	0	690
TOTAL	15012	8339	5021	388	5074	415	1473	0	0	0	35722
- GREENSVILLE -											
1	2101	338	0	0	0	0	187	0	0	0	2626
2E	7850	4000	402	603	6646	805	402	0	0	0	20708
3E	836	870	0	217	1338	0	0	0	0	0	3261
4E	173	346	0	0	691	172	0	0	0	0	1382
2W	2637	1410	546	272	546	0	1682	0	0	0	7093
3W	500	387	0	0	0	0	1823	0	0	0	2710
4W	0	0	0	0	0	0	174	0	0	0	174
2S	2387	1551	196	196	394	0	0	0	0	0	4724
TOTAL	16484	8902	1144	1288	9615	977	4268	0	0	0	42678
- HAMPTON -											
1	114	114	0	0	0	0	0	0	0	0	228
2W	0	0	0	0	0	0	57	0	0	0	57
TOTAL	114	114	0	0	0	0	57	0	0	0	285
- HANOVER -											
1	7097	2350	450	0	0	0	0	0	0	0	9897
2E	13949	10189	1221	0	0	0	0	0	0	0	25359
3E	808	736	0	0	0	418	0	0	0	0	1962
4E	491	198	398	0	0	697	0	0	0	0	1784
6E	1456	417	0	0	0	208	0	0	0	0	2081
7E	0	246	0	0	0	245	0	0	0	0	491
2W	2214	1771	0	0	0	0	3323	0	0	0	7308
3W	1310	403	0	0	0	0	1304	0	0	0	3017
4W	0	0	0	0	0	0	183	0	0	0	183
5W	163	0	0	0	0	0	0	0	0	0	163
6W	0	0	0	0	0	0	489	0	0	0	489
2S	3244	2996	0	0	0	0	0	0	0	0	6240
3S	701	5609	0	0	0	0	0	0	0	0	6310
TOTAL	31433	24915	2069	0	0	1568	5299	0	0	0	65284

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TABLE 3 (CONT'D)

CONSERVATION TREATMENT NEEDS - CROPLAND IN TILLAGE ROTATION (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TREATMENT ADEQUATE (IRRIGATED AND NON- IRRIGATED)	RESIDUE AND ANNUAL COVER	SOD IN ROTATION	NON-IRRIGATED CROPLAND CONTOUR- ING ONLY	STRIP CROPPING TERRACING DIVERSIONS	PERMANENT COVER	DRAINAGE	CULTURAL MANAGEMENT PRACTICES ONLY	IRRIGATED CROPLAND IMPROVED SYSTEMS	WATER MANAGE- MENT	TOTAL TILLAGE ROTATION
<u>HENRICO</u>											
1	723	0	0	0	0	0	0	0	0	0	723
2E	4192	3250	1250	500	0	0	0	0	0	0	9192
3E	1499	783	215	0	500	0	0	0	0	0	2997
4E	1000	550	500	0	800	1067	0	0	0	0	3917
2W	951	250	0	0	0	0	700	0	0	0	1901
3W	300	0	0	0	0	176	405	0	0	0	881
TOTAL	8665	4833	1965	500	1300	1243	1105	0	0	0	19611
<u>ISLE OF WIGHT</u>											
1	4500	196	0	0	0	0	0	0	0	0	4696
2E	388	5813	3101	0	0	0	0	0	0	0	9302
3E	0	0	379	0	0	380	0	0	0	0	759
4E	0	0	198	0	0	0	0	0	0	0	198
7E	0	198	0	0	0	0	0	0	0	0	198
2W	8509	79	0	0	0	0	18463	0	0	0	27051
3W	953	0	0	0	0	0	2669	0	0	0	3622
2S	10207	5603	0	0	0	0	0	0	0	0	15810
3S	2006	2416	0	0	0	0	0	0	0	0	4422
TOTAL	26563	14305	3678	0	0	380	21132	0	0	0	66058
<u>JAMES CITY</u>											
2E	286	600	254	296	296	42	0	0	0	0	1774
3E	249	600	200	262	0	0	0	0	0	0	1311
4E	0	0	0	0	409	205	0	0	0	0	614
2W	244	0	0	0	0	0	400	0	0	0	644
2S	2848	2079	846	502	0	0	0	0	0	0	6275
3S	413	200	0	0	0	0	0	0	0	0	613
TOTAL	4040	3479	1300	1060	705	247	400	0	0	0	11231
<u>NANSEMOND</u>											
1	1253	176	0	0	0	0	0	0	0	0	1429
2E	6839	1697	0	404	202	202	0	0	0	0	9344
3E	0	0	0	259	0	0	0	0	0	0	259
4E	0	0	0	115	0	0	0	0	0	0	115
6E	0	245	0	0	0	731	0	0	0	0	976
2W	9718	269	0	0	0	0	28685	0	0	0	38672
3W	2263	268	0	0	0	0	1706	0	0	0	4237
6W	0	0	0	0	0	0	200	0	0	0	200
2S	4236	1240	0	0	0	0	0	0	0	0	5476
3S	4406	1028	0	0	0	0	0	0	0	0	5434
TOTAL	28715	4923	0	778	202	933	30591	0	0	0	66142

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TABLE 3 (CONT'D)

CONSERVATION TREATMENT NEEDS - CROPLAND IN TILLAGE ROTATION (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TREATMENT ADEQUATE (IRRIGATED AND NON- IRRIGATED)	RESIDUE AND ANNUAL COVER	SOD IN ROTATION	NON-IRRIGATED CROPLAND CONTOUR- ING ONLY	STRIP CROPPING TERRACING DIVERSIONS	PERMANENT COVER	DRAINAGE	CULTURAL MANAGEMENT PRACTICES ONLY	IRRIGATED CROPLAND IMPROVED SYSTEMS	WATER MANAGE- MENT	TOTAL TILLAGE ROTATION
<u>NEW KENT</u>											
1	375	0	0	0	0	0	0	0	0	0	375
2E	924	1073	0	800	386	100	0	0	0	0	3283
3E	419	0	0	434	0	0	0	0	0	0	853
4E	19	274	0	200	619	200	0	0	0	0	1312
2W	814	0	0	0	0	0	3254	0	0	0	4068
2S	271	200	0	200	0	0	0	0	0	0	671
3S	513	100	0	200	0	0	0	0	0	0	813
TOTAL	3335	1647	0	1834	1005	300	3254	0	0	0	11375
<u>NEWPORT NEWS</u>											
2W	175	0	0	0	0	0	175	0	0	0	350
3W	75	0	0	0	0	0	100	0	0	0	175
TOTAL	250	0	0	0	0	0	275	0	0	0	525
<u>POWHEATAN</u>											
1	431	0	0	0	0	0	0	0	0	0	431
2E	2873	50	1865	1552	3064	888	1900	0	0	0	12192
3E	1752	50	950	0	2947	219	0	0	0	0	5918
4E	222	0	0	444	444	0	0	0	0	0	1110
6E	680	0	0	0	0	0	0	0	0	0	680
7E	640	0	0	0	0	0	0	0	0	0	640
2W	0	0	0	0	222	0	0	0	0	0	222
3W	1110	0	0	0	0	0	0	0	0	0	1110
5W	0	0	0	0	222	0	0	0	0	0	222
TOTAL	7708	100	2815	1996	6899	1107	1900	0	0	0	22525
<u>PRINCE GEORGE</u>											
1	0	259	0	0	0	0	0	0	0	0	259
2E	3221	5661	0	2664	0	0	0	0	0	0	11546
3E	0	850	0	424	0	0	0	0	0	0	1274
4E	0	750	0	750	1001	0	0	0	0	0	2501
6E	0	259	0	0	1039	0	0	0	0	0	1258
2W	4160	1847	0	0	0	0	4617	0	0	0	10624
3W	0	0	0	0	0	0	401	0	0	0	401
7W	0	0	0	0	0	0	255	0	0	0	255
2S	1000	1594	0	944	236	0	0	0	0	0	3774
3S	0	518	0	0	0	0	0	0	0	0	518
TOTAL	8381	11738	0	4782	2276	0	5277	0	0	0	32454

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TABLE 3 (CONT'D)

CONSERVATION TREATMENT NEEDS - CROPLAND IN TILLAGE ROTATION (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TREATMENT ADEQUATE (IRRIGATED AND NON- IRRIGATED)	RESIDUE AND ANNUAL COVER	SOD IN ROTATION	NON-IRRIGATED CROPLAND CONTOUR- ING ONLY	STRIP CROPPING TERRACING DIVERSIONS	PERMANENT COVER	DRAINAGE	CULTURAL MANAGEMENT PRACTICES ONLY	IRRIGATED CROPLAND IMPROVED SYSTEMS	WATER MANAGE- MENT	TOTAL TILLAGE ROTATION
<u>SOUTHAMPTON</u>											
1	5500	2071	0	0	0	0	0	0	0	0	7571
2E	12253	5446	0	0	446	0	0	0	0	0	18145
3E	445	223	0	0	1008	0	0	0	0	0	1576
4E	0	0	0	0	893	356	0	0	0	0	1245
6E	0	0	0	0	446	237	0	0	0	0	683
2W	3500	1615	0	0	0	0	31361	0	0	0	36476
3W	193	238	0	0	0	0	8295	0	0	0	8726
4W	25	0	0	0	0	0	175	0	0	0	200
6W	0	0	0	0	0	0	483	0	0	0	463
7W	0	0	0	0	0	0	282	0	0	0	282
2S	15276	6416	0	0	0	0	0	0	0	0	21652
3S	8745	5387	0	0	0	0	0	0	0	0	14132
4S	223	265	0	0	0	0	0	0	0	0	488
TOTAL	46160	21661	0	0	2793	593	40596	0	0	0	111803
<u>SURRY</u>											
1	1005	407	0	0	0	0	807	0	0	0	2219
2E	6411	4714	185	185	926	0	741	0	0	0	13162
3E	899	846	0	0	499	0	249	0	0	0	2493
4E	0	0	0	0	1204	0	0	0	0	0	1204
6E	0	534	0	0	535	0	0	0	0	0	1069
2W	1634	422	177	0	77	0	3022	0	0	0	5332
3W	163	900	0	0	0	0	500	0	0	0	1563
7W	1831	608	0	0	0	0	0	0	0	0	2439
2S	3573	5231	191	0	0	0	383	0	0	0	9378
3S	1342	883	0	0	0	0	0	0	0	0	2225
4S	0	205	0	0	0	0	0	0	0	0	205
TOTAL	16858	14750	553	185	3241	0	5702	0	0	0	41289
<u>SUSSEX</u>											
1	2000	869	0	0	0	0	0	0	0	0	2869
2E	7550	2987	0	0	3147	0	0	0	0	0	13684
3E	0	0	0	0	442	0	0	0	0	0	442
4E	0	0	0	0	1324	0	0	0	0	0	1324
2W	2442	1207	0	0	1986	0	7607	0	0	0	13242
3W	0	0	0	0	0	0	662	0	0	0	662
4W	0	0	0	0	0	0	221	0	0	0	221
2S	9222	2179	0	0	4710	0	441	0	0	0	16552
3S	1800	1207	0	0	1407	0	0	0	0	0	4414
TOTAL	23014	8449	0	0	13016	0	8931	0	0	0	53410

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TABLE 3 (CONT'D)

CONSERVATION TREATMENT NEEDS - CROPLAND IN TILLAGE ROTATION (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TREATMENT ADEQUATE (IRRIGATED AND NON- IRRIGATED)	RESIDUE AND ANNUAL COVER	SOD IN ROTATION	NON-IRRIGATED CROPLAND CONTOUR- ING ONLY	STRIP CROPPING TERRACING DIVERSIONS	PERMANENT COVER	DRAINAGE	CULTURAL MANAGEMENT PRACTICES ONLY	IRRIGATED CROPLAND IMPROVED SYSTEMS	WATER MANAGE- MENT	TOTAL TILLAGE ROTATION
<u>VIRGINIA BEACH</u>											
I	11285	2000	0	0	0	0	2551	0	0	0	15836
2E	0	0	0	0	0	0	2196	0	0	0	2196
2W	4659	0	0	0	0	0	7854	0	0	0	12513
3W	10000	0	0	0	0	0	24007	0	0	0	34007
TOTAL	25944	2000	0	0	0	0	36608	0	0	0	64552
<u>YORK</u>											
2W	100	0	0	0	0	0	524	0	0	0	624
2S	450	135	200	0	0	150	0	0	0	0	935
3S	500	54	90	0	0	75	0	0	0	0	719
TOTAL	1050	189	290	0	0	225	524	0	0	0	2278

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TABLE 4

CONSERVATION TREATMENT NEEDS - OTHER CROPLAND AND TOTAL CROPLAND (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	ORCHARDS, VINEYARDS, AND BUSH FRUIT			KIND OF TREATMENT CODE	OPEN LAND FORMERLY CROPPED			KIND OF TREATMENT CODE	TOTAL CROPLAND
	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		
<u>CHARLES CITY</u>									
1	0	0	0		0	0	0		3137
2E	0	0	0		204	104	100	1	3792
3E	0	0	0		0	0	0		812
4E	0	0	0		0	0	0		204
2W	0	0	0		0	0	0		1857
3W	0	0	0		0	0	0		989
5W	0	0	0		0	0	0		361
2S	0	0	0		0	0	0		5822
3S	0	0	0		0	0	0		722
TOTAL	0	0	0		204	104	100		17736
<u>CHESAPEAKE</u>									
1	0	0	0		0	0	0		300
2W	200	150	50	1 6	0	0	0		4819
3W	0	0	0		0	0	0		45077
4W	0	0	0		0	0	0		10498
7W	0	0	0		0	0	0		1740
2S	100	75	25	1	0	0	0		100
8S	0	0	0		0	0	0		863
TOTAL	300	225	75		0	0	0		63397
<u>CHESTERFIELD</u>									
1	6	6	0		126	120	6	1	1190
2E	58	40	18	1	1287	900	387	1	10710
3E	16	8	8	3	328	200	128	3	2502
4E	9	3	6	4	202	110	92	4	1726
2W	1	1	0		25	20	5	6	238
3W	2	2	0		50	30	20	6	476
5W	2	0	2	6	51	25	26	6	358
2S	4	4	0		101	90	11	1	952
3S	2	2	0		50	40	10	1	476
TOTAL	100	66	34		2220	1535	685		18628
<u>DINWIDDIE</u>									
1	1	1	0		0	0	0		2671
2E	17	15	2	1	222	122	100	1	30409
3E	4	4	0		0	0	0		6925
4E	1	1	0		0	0	0		1023
2W	4	3	1	6	0	0	0		7011
3W	1	1	0		0	0	0		1471
5W	0	0	0		0	0	0		258
2S	1	1	0		0	0	0		450
3S	1	1	0		0	0	0		358
TOTAL	30	27	3		222	122	100		50376

TABLE 4 (CONT'D)

CONSERVATION TREATMENT NEEDS - OTHER CROPLAND AND TOTAL CROPLAND (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	ORCHARDS, VINEYARDS, AND BUSH FRUIT			KIND OF TREATMENT CODE	OPEN LAND FORMERLY CROPPED			KIND OF TREATMENT CODE	TOTAL CROPLAND
	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		
<u>GOOCHLAND</u>									
1	0	0	0		0	0	0		2196
2E	0	0	0		764	500	264	5 2 1 4	16280
3E	0	0	0		1146	600	546	5 2 1 4	6844
4E	0	0	0		255	0	255	2 4	6575
6E	0	0	0		127	0	127	5	2027
7E	0	0	0		0	0	0		379
2W	0	0	0		0	0	0		401
3W	0	0	0		0	0	0		1754
4W	0	0	0		0	0	0		868
6W	0	0	0		0	0	0		650
TOTAL	0	0	0		2292	1100	1192		38014
<u>GREENSVILLE</u>									
1	0	0	0		0	0	0		2626
2E	0	0	0		0	0	0		20708
3E	0	0	0		500	300	200	3	3761
4E	0	0	0		0	0	0		1382
2W	0	0	0		0	0	0		7093
3W	0	0	0		0	0	0		2710
4W	0	0	0		0	0	0		174
2S	0	0	0		0	0	0		4724
TOTAL	0	0	0		500	300	200		43178
<u>HAMPTON</u>									
1	20	15	5	1	0	0	0		248
2W	10	7	3	6	0	0	0		67
TOTAL	30	22	8		0	0	0		315
<u>HANOVER</u>									
1	0	0	0		0	0	0		9897
2E	0	0	0		0	0	0		25359
3E	0	0	0		0	0	0		1962
4E	0	0	0		0	0	0		1784
6E	0	0	0		0	0	0		2081
7E	0	0	0		0	0	0		491
2W	0	0	0		0	0	0		1308
3W	0	0	0		0	0	0		3017
4W	0	0	0		0	0	0		163
5W	0	0	0		0	0	0		163
6W	0	0	0		0	0	0		489
2S	0	0	0		0	0	0		6240
3S	0	0	0		0	0	0		6310
TOTAL	0	0	0		0	0	0		65284

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TABLE 4 (CONT'D)

CONSERVATION TREATMENT NEEDS - OTHER CROPLAND AND TOTAL CROPLAND (ACRES) - 1967										
LAND CAPABILITY CLASS SUB-CLASS	ORCHARDS, VINEYARDS, AND BUSH FRUIT				OPEN LAND FORMERLY CROPPED				KIND OF TREATMENT CODE	TOTAL CROPLAND
	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED	KIND OF TREATMENT CODE	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED			
-HENRICO-										
1	0	0	0		0	0	0			723
2E	0	0	0		493	493	0			9685
3E	0	0	0		246	246	0			3243
4E	0	0	0		984	0	984	5		4901
2W	0	0	0		493	493	0			2354
3W	0	0	0		492	492	0			1373
2S	0	0	0		492	492	0			492
TOTAL	0	0	0		3200	2216	984			22811
-ISLE OF WIGHT-										
1	27	20	7	2	0	0	0			4723
2E	52	35	17	2	0	0	0			9354
3E	4	3	1	2	0	0	0			763
4E	1	0	1	2	0	0	0			199
7E	1	0	1	2	0	0	0			199
2W	139	100	39	6	0	0	0			27190
3W	21	5	16	6	0	0	0			3643
2S	84	50	34	1	0	0	0			15894
3S	21	10	11	2	0	0	0			4443
TOTAL	350	223	127		0	0	0			66408
-JAMES CITY-										
2E	0	0	0		0	0	0			1774
3E	0	0	0		0	0	0			1311
4E	0	0	0		0	0	0			614
2W	0	0	0		0	0	0			644
2S	159	159	0		0	0	0			6434
3S	53	53	0		0	0	0			666
TOTAL	212	212	0		0	0	0			11443
-NANSEMOND-										
1	0	0	0		0	0	0			1429
2E	0	0	0		0	0	0			9344
3E	0	0	0		0	0	0			259
4E	0	0	0		0	0	0			115
6E	0	0	0		0	0	0			976
2W	0	0	0		0	0	0			38672
3W	0	0	0		0	0	0			4237
6W	0	0	0		0	0	0			200
2S	0	0	0		0	0	0			5476
3S	0	0	0		0	0	0			5434
TOTAL	0	0	0		0	0	0			66142

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TABLE 4 (CONT'D)

CONSERVATION TREATMENT NEEDS - OTHER CROPLAND AND TOTAL CROPLAND (ACRES) - 1967									
LAND CAPABILITY CLASS SUB-CLASS	ORCHARDS, VINEYARDS, AND BUSH FRUIT			KIND OF TREATMENT CODE	OPEN LAND FORMERLY CROPPED			KIND OF TREATMENT CODE	TOTAL CROPLAND
	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		
- NEW KENT -									
1	0	0	0		0	0	0		375
2E	0	0	0		0	0	0		3283
3E	0	0	0		0	0	0		853
4E	0	0	0		0	0	0		1312
2W	0	0	0		0	0	0		4068
2S	0	0	0		0	0	0		671
3S	0	0	0		0	0	0		813
TOTAL	0	0	0		0	0	0		11375
- NEWPORT NEWS -									
2W	0	0	0		0	0	0		350
3W	0	0	0		0	0	0		175
TOTAL	0	0	0		0	0	0		525
- POWHATAN -									
1	0	0	0		0	0	0		431
2E	0	0	0		1110	900	210	3 4	13302
3E	0	0	0		444	200	244	3	6362
4E	0	0	0		444	0	444	4 3	1554
6E	0	0	0		0	0	0		680
7E	0	0	0		0	0	0		640
2W	0	0	0		0	0	0		222
3W	0	0	0		0	0	0		1110
5W	0	0	0		0	0	0		222
TOTAL	0	0	0		1998	1100	898		24523
- PRINCE GEORGE -									
1	0	0	0		0	0	0		259
2E	0	0	0		0	0	0		11546
3E	0	0	0		0	0	0		1274
4E	0	0	0		0	0	0		2501
6E	0	0	0		0	0	0		1258
2W	0	0	0		0	0	0		10624
3W	0	0	0		0	0	0		461
7W	0	0	0		0	0	0		259
2S	0	0	0		0	0	0		3774
3S	0	0	0		0	0	0		518
TOTAL	0	0	0		0	0	0		32454

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TABLE 4 (CONT'D)

CONSERVATION TREATMENT NEEDS - OTHER CROPLAND AND TOTAL CROPLAND (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	ORCHARDS, VINEYARDS, AND BUSH FRUIT			KIND OF TREATMENT CODE	OPEN LAND FORMERLY CROPPED			KIND OF TREATMENT CODE	TOTAL CROPLAND
	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		
- SOUTHAMPTON -									
1	2	2	0		0	0	0		7573
2E	4	4	0		37	25	12	1	18186
3E	0	0	0		0	0	0		1676
4E	0	0	0		0	0	0		1249
6E	1	1	0		0	0	0		684
2W	7	4	3	1	0	0	0		36483
3W	2	2	0		0	0	0		8728
4W	0	0	0		0	0	0		200
6W	1	1	0		0	0	0		484
7W	0	0	0		0	0	0		282
2S	5	3	2	1	0	0	0		21697
3S	3	3	0		38	25	13	1	14173
4S	0	0	0		0	0	0		468
TOTAL	25	20	5		75	50	25		111903
- SURRY -									
1	0	0	0		0	0	0		2219
2E	15	10	5	3	0	0	0		13177
3E	0	0	0		0	0	0		2453
4E	0	0	0		0	0	0		1204
6E	0	0	0		0	0	0		1069
2W	0	0	0		0	0	0		5332
3W	0	0	0		0	0	0		1563
7W	0	0	0		0	0	0		2439
2S	0	0	0		0	0	0		9378
3S	0	0	0		0	0	0		2225
4S	0	0	0		0	0	0		205
TOTAL	15	10	5		0	0	0		41304
- SUSSEX -									
1	0	0	0		0	0	0		2869
2E	0	0	0		0	0	0		13684
3E	0	0	0		0	0	0		442
4E	0	0	0		0	0	0		1324
2W	0	0	0		0	0	0		13242
3W	0	0	0		0	0	0		662
4W	0	0	0		0	0	0		221
2S	0	0	0		0	0	0		16552
3S	0	0	0		0	0	0		4414
TOTAL	0	0	0		0	0	0		53410
- VIRGINIA BEACH -									
1	13	10	3	1	72	72	0		15921
2E	2	0	2	1	12	0	12	1	2210
2W	9	9	0		59	59	0		12581
3W	26	15	11	6	157	100	57	6	34190
TOTAL	50	34	16		300	231	69		64902

TABLE 4 (CONT'D)

CONSERVATION TREATMENT NEEDS - OTHER CROPLAND AND TOTAL CROPLAND (ACRES) - 1967								
LAND CAPABILITY CLASS SUB-CLASS	ORCHARDS, VINEYARDS, AND BUSH FRUIT			KIND OF TREATMENT CODE	OPEN LAND FORMERLY CROPPED			TOTAL CROPLAND
	TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED		TOTAL	TREATMENT ADEQUATE	TREATMENT NEEDED	
-YORK-								
1	5	5	0		0	0	0	5
2M	17	9	8 1		0	0	0	641
2S	11	6	5 1		0	0	0	946
3S	17	10	7 1		0	0	0	736
TOTAL	50	30	20		0	0	0	2328

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TABLE 5

CONSERVATION TREATMENT NEEDS - PASTURE (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TOTAL	TREATMENT ADEQUATE	NO TREATMENT FEASIBLE	CHANGE IN LAND USE	TOTAL NEEDING TREATMENT	PROTEC- TION ONLY	IMPROVE- MENT ONLY	BRUSH CONTROL AND IM- PROVEMENT	TREATMENT NEEDS TOTAL NEEDING IMPROVE- MENT	REESTAB- LISHMENT OF VEGETA- TIVE COVER	REESTAB- LISHMENT WITH BR CONTROL	TOTAL NEEDING REESTAB- LISHMENT
<u>- CHARLES CITY -</u>												
1	408	204	0	0	204	104	100	0	204	0	0	0
2E4E	1223	208	0	0	1015	0	200	0	200	815	0	815
2W4W	1631	727	0	0	904	0	700	0	700	204	0	204
2S4S	204	0	0	0	204	0	0	0	0	204	0	204
5W8W	815	215	0	0	600	0	600	0	600	0	0	0
TOTAL	4281	1354	0	0	2927	104	1600	0	1704	1223	0	1223
<u>- CHESAPEAKE -</u>												
2W4W	5323	2176	0	0	3147	2023	1124	0	3147	0	0	0
2S4S	295	121	0	0	174	75	99	0	174	0	0	0
TOTAL	5618	2297	0	0	3321	2098	1223	0	3321	0	0	0
<u>- CHESTERFIELD -</u>												
2E4E	2328	681	0	0	1647	200	600	0	800	847	0	847
2W4W	424	224	0	0	200	0	100	0	100	100	0	100
2S4S	2751	470	0	0	2281	0	2051	0	2051	230	0	230
TOTAL	5503	1375	0	0	4128	200	2751	0	2951	1177	0	1177
<u>- DINWIDDIE -</u>												
2E4E	6665	2145	0	0	4520	1003	2052	0	3055	1465	0	1465
2W4W	222	0	0	0	222	0	222	0	222	0	0	0
2S4S	222	0	0	0	222	0	222	0	222	0	0	0
5W8W	444	0	0	0	444	0	444	0	444	0	0	0
TOTAL	7553	2145	0	0	5408	1003	2940	0	3943	1465	0	1465
<u>- GOOCHLAND -</u>												
2E4E	16762	6818	284	0	9660	852	3578	2557	7387	2273	0	2273
2W4W	1420	854	0	0	566	0	283	283	566	0	0	0
2S4S	284	0	0	0	284	0	284	0	284	0	0	0
5E8E	5398	568	0	0	4830	1136	2558	1136	4830	0	0	0
5W8W	852	285	0	0	567	0	283	284	567	0	0	0
5S8S	284	0	0	0	284	284	0	0	284	0	0	0
TOTAL	25000	8525	284	0	16191	2272	7386	4260	13516	2273	0	2273
<u>- GREENSVILLE -</u>												
2E4E	3370	800	0	0	2570	155	1242	0	1397	1173	0	1173
2W4W	674	150	0	0	524	45	0	0	45	479	0	479
2S4S	539	200	0	0	339	37	296	0	333	6	0	6
5W8W	270	50	0	0	220	0	0	0	0	85	135	220
TOTAL	4853	1200	0	0	3653	237	1538	0	1775	1743	135	1878

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TABLE 5 (CONT'D)

CONSERVATION TREATMENT NEEDS - PASTURE (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TOTAL	TREATMENT ADEQUATE	NO TREATMENT FEASIBLE	CHANGE IN LAND USE	TOTAL NEEDING TREATMENT	PROTEC- TION ONLY	IMPROVE- MENT ONLY	BRUSH CONTROL AND IM- PROVEMENT	TREATMENT NEEDS TOTAL NEEDING IMPROVE- MENT	REESTAB- LISHMENT OF VEGETA- TIVE COVER	REESTAB- LISHMENT WITH BR CONTROL	TOTAL NEEDING REESTAB- LISHMENT
<u>- HAMPTON -</u>												
1	205	80	0	0	125	0	62	0	62	63	0	63
TOTAL	205	80	0	0	125	0	62	0	62	63	0	63
<u>- HANOVER -</u>												
1	3309	3151	0	0	158	0	158	0	158	0	0	0
2E4E	9610	5671	0	0	3939	0	3939	0	3939	0	0	0
2W4W	2679	788	0	0	1891	0	1733	0	1733	0	158	158
2S4S	788	158	0	0	630	0	472	0	472	158	0	158
5E8E	3466	1575	0	0	1891	0	1575	0	1575	316	0	316
5W8W	473	0	0	0	473	0	473	0	473	0	0	0
TOTAL	20325	11343	0	0	8982	0	8350	0	8350	474	158	632
<u>- HENRICO -</u>												
2E4E	4235	1500	0	0	2735	658	1777	0	2435	300	0	300
5W8W	1765	500	0	0	1265	165	900	0	1065	200	0	200
TOTAL	6000	2000	0	0	4000	823	2677	0	3500	500	0	500
<u>- ISLE OF WIGHT -</u>												
2E4E	436	0	0	0	436	0	0	0	0	436	0	436
2W4W	3267	1218	0	0	2049	218	960	0	1178	871	0	871
2S4S	1089	0	0	0	1089	0	218	0	218	871	0	871
5E8E	653	0	0	0	653	0	0	0	0	653	0	653
5W8W	436	436	0	0	0	0	0	0	0	0	0	0
TOTAL	5881	1654	0	0	4277	218	1178	0	1396	2831	0	2831
<u>- JAMES CITY -</u>												
2E4E	407	407	0	0	0	0	0	0	0	0	0	0
2S4S	814	0	0	0	814	0	407	0	407	407	0	407
5E8E	814	0	0	0	814	0	814	0	814	0	0	0
TOTAL	2035	407	0	0	1628	0	1221	0	1221	407	0	407
<u>- NANSEMOND -</u>												
2E4E	1340	407	0	0	933	0	630	0	630	303	0	303
2W4W	2412	268	0	0	2144	0	1388	0	1388	756	0	756
2S4S	1340	670	0	0	670	0	462	0	462	208	0	208
5W8W	536	0	0	0	536	0	268	0	268	268	0	268
TOTAL	5628	1345	0	0	4283	0	2748	0	2748	1535	0	1535

TABLE 5 (CONT'D)

CONSERVATION TREATMENT NEEDS - PASTURE (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TOTAL	TREATMENT ADEQUATE	NO TREATMENT FEASIBLE	CHANGE IN LAND USE	TOTAL NEEDING TREATMENT	PROTEC- TION ONLY	IMPROVE- MENT ONLY	BRUSH CONTROL AND IM- PROVEMENT	TREATMENT NEEDS TOTAL NEEDING IMPROVE- MENT	REESTAB- LISHMENT OF VEGETA- TIVE COVER	REESTAB- LISHMENT WITH BR CONTROL	TOTAL NEEDING REESTAB- LISHMENT
- NEW KENT -												
2E4E	1305	326	0	0	979	0	616	0	616	363	0	363
2S4S	653	339	0	0	314	0	0	0	0	314	0	314
5E8E	980	0	0	0	980	0	766	0	766	214	0	214
TOTAL	2938	665	0	0	2273	0	1382	0	1382	891	0	891
- NEWPORT NEWS -												
2W4W	540	170	0	0	370	0	115	0	115	255	0	255
TOTAL	540	170	0	0	370	0	115	0	115	255	0	255
- POWHATAN -												
1	1233	800	0	0	433	0	133	0	133	300	0	300
2E4E	7245	2950	0	0	4295	0	1100	0	1100	2791	404	3195
2W4W	1693	0	0	0	1693	0	839	0	839	554	300	854
5E8E	1495	200	0	0	1495	0	795	200	995	450	50	500
TOTAL	11866	3950	0	0	7916	0	2867	200	3067	4095	754	4849
- PRINCE GEORGE -												
2E4E	1341	193	0	0	1148	0	450	0	450	698	0	698
2W4W	1676	176	0	0	1500	198	1000	0	1198	302	0	302
2S4S	335	335	0	0	0	0	0	0	0	0	0	0
TOTAL	3352	704	0	0	2648	198	1450	0	1648	1000	0	1000
- SOUTHAMPTON -												
1	688	266	0	0	422	0	250	0	250	172	0	172
2E4E	1547	500	0	0	1047	0	847	0	847	200	0	200
2W4W	7392	3154	0	0	4238	0	3100	0	3100	1136	0	1136
2S4S	1030	105	0	0	925	0	625	0	625	300	0	300
5E8E	171	0	0	0	171	0	171	0	171	0	0	0
5W6W	172	0	0	0	172	0	0	0	0	172	0	172
TOTAL	11000	4025	0	0	6975	0	4993	0	4993	1982	0	1982
- SURRY -												
2E4E	730	338	0	0	392	0	150	0	150	242	0	242
2W4W	243	13	0	0	230	0	90	0	90	140	0	140
2S4S	243	13	0	0	230	0	85	0	85	145	0	145
TOTAL	1216	364	0	0	852	0	325	0	325	527	0	527

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TABLE 5 (CONT'D)

CONSERVATION TREATMENT NEEDS - PASTURE (ACRES) - 1967

LAND CAPABILITY CLASS SUB-CLASS	TOTAL	TREATMENT ADEQUATE	NO TREATMENT FEASIBLE	CHANGE IN LAND USE	TOTAL NEEDING TREATMENT	PROTEC- TION ONLY	IMPROVE- MENT ONLY	BRUSH CONTROL AND IM- PROVEMENT	TOTAL NEEDING IMPROVE- MENT	REESTAB- LISHMENT OF VEGETA- TIVE COVER	REESTAB- LISHMENT WITH BR CONTROL	TOTAL NEEDING REESTAB- LISHMENT
<u>- SUSSEX -</u>												
1	221	0	0	0	221	0	221	0	221	0	0	0
2E4E	2869	844	0	0	2025	50	804	0	854	1171	0	1171
2W4W	4192	1361	0	0	831	50	1225	0	1275	1556	0	1556
2S4S	662	75	0	0	587	0	321	0	321	266	0	266
5W8W	883	0	0	0	883	0	662	0	662	221	0	221
TOTAL	8827	2280	0	0	6547	100	3233	0	3333	3214	0	3214
<u>- VIRGINIA BEACH -</u>												
2W4W	3879	1210	0	0	669	0	0	0	0	0	2669	2669
5W8W	121	0	0	0	121	0	0	0	0	0	121	121
TOTAL	4000	1210	0	0	790	0	0	0	0	0	2790	2790
<u>- YORK -</u>												
1	89	40	0	0	49	0	49	0	49	0	0	0
2W4W	267	50	0	0	217	0	117	0	117	100	0	100
2S4S	444	135	0	0	309	90	134	0	224	85	0	85
TOTAL	800	225	0	0	575	90	300	0	390	185	0	185

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APPENDIX D

TOPOGRAPHIC AND SOIL MAPS

D-i

APPENDIX D

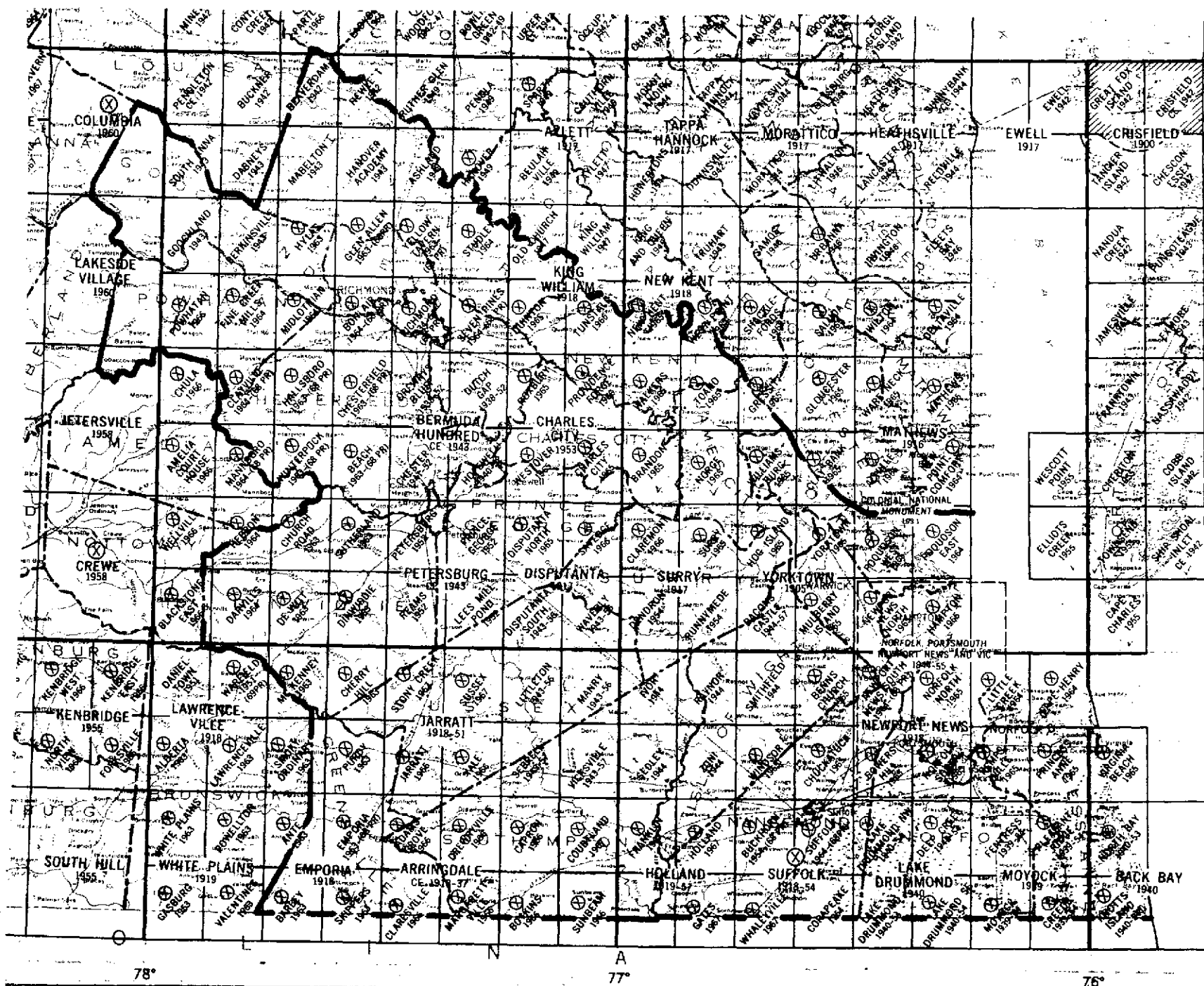
INDEX

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SOIL MAPS	D-4
Dinwiddie County	D-6
Goochland County	D-8
Greensville County	D-10
Hanover County	D-11
Isle of Wight County	D-13
James City County	D-15
Nansemond County	D-16
Prince George County	D-18
Southampton County	D-19
Surry County	D-20
Sussex County	D-22
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Virginia Beach	D-24

INDEX TO TOPOGRAPHIC MAPS IN RICHEL,
7 1/2 MINUTE QUADRANGLES UNLESS NOTED (*)

Adams Grove	Fentress	Poguoson West
Amelia Court House	Fine Creek Mills	Powhatan
Ante	Franklin	Prince George
Ashland	Gates	Princess Anne
Bacons Castle	Glen Allen	Providence Forge
Ballsville	Goochland	Purdy
Barley	Gressitt	Quinton
Blackstone East	Hallsboro	Raynor
Beach	Hampton	Reams
Beaverdam	Hanover	Richmond
Benns Church	Hanover Academy	Riverdale
Bon Air	Hebron	Roxbury
Boykins	Hewlett	Runnymede
Brandon	Hog Island	Ruther Glen
Buckhorn	Holland	Savage
Cape Henery	Hopewell	Sebrell
Capron	Hylas	Sedley
Cartersville	Ivor	Seven Pines
Charles City	Jetersville*	Skippers
Cherry Hill	Kempsville	Smithfield
Chester	King William	Smoky Ordinary
Chesterfield	Knotts Island	South Anna
Chuckatuck	Lake Drummond	Stony Creek
Chula	Lake Drummond NW	Studley
Church Road	Lake Drummond SE	Suffolk
Claremont	Lakeside Village	Sunbeam
Claresville	Little Creek	Surry
Clay Bank	Littleton	Sussex
Clayville	Mabelton	Sutherland
Corapeake	Manry	Toana
Columbia*	Margarettsville	Trenholm
Courtland	McKenney	Tunstall
Creeds	Midlothian	Valentines
Dabneys	Moyock	Vicksville
Daniel Town	Mulberry Island	Virginia Beach
Darvills	New Kent	Walkers
Deep Creek	Newport News North	Warfield
Dendron	Newport News South	Waverly
De Witt	Norge	Wellville
Dinwiddie	North Bay	West Point
Disputanta North	Old Church	Whaleyville
Disputanta South	Partlow	Whiteville
Drewrys Bluff	Perkinsville	Williamsburg
Drewryville	Petersburg	Windsor
Dutch Gap	Pleasant Ridge	Yale
Emporia	Poguoson East	

* 15 minute quadrangle



SOIL MAPS

Soil mapping in Virginia is not complete for all counties. Several of the surveys recently completed are not published while an even larger number of surveys are now inadequate considering present demands being made by the public. The staff of the Soil Conservation Service, Department of Agriculture, are now in the process of producing rough draft soil association maps for this report. Work on these is expected to reach completion before January, 1972.

Copies of these maps would normally be available from soil scientists serving the map area. Reference to the list of Soil Conservation Service personnel is suggested as a source of soil maps within this area.

The soil maps in general have an explanation of the associations immediately adjacent to the map. The suitability of each soil for any one of up to 13 uses is found on the page following each map. A large number of soil associations in the western end of the test site appear to mimic the regional rock distribution. For that reason the geological map of the James River Basin has been included in this section of the report.

ADDITIONAL SOURCES OF INFORMATION

A List of Soil Conservation Service Personnel Serving RICHEL

Area of Responsibility

Thomas R. Burruss
P.O. Box 66
Goochland, Virginia 23063

Goochland County

Bartley E. Tuthill
300 Cedar Road
Chesapeake, Virginia 23320

Area 3 - Eastern most Virginia - both
sides of Chesapeake from North Carolina
to Maryland.

Louis E. Cullipher
Agricultural Building
Prince George, Virginia 23875

Prince George County

John W. Clay
21st and Main Streets
Richmond, Virginia 23207

Henrico County

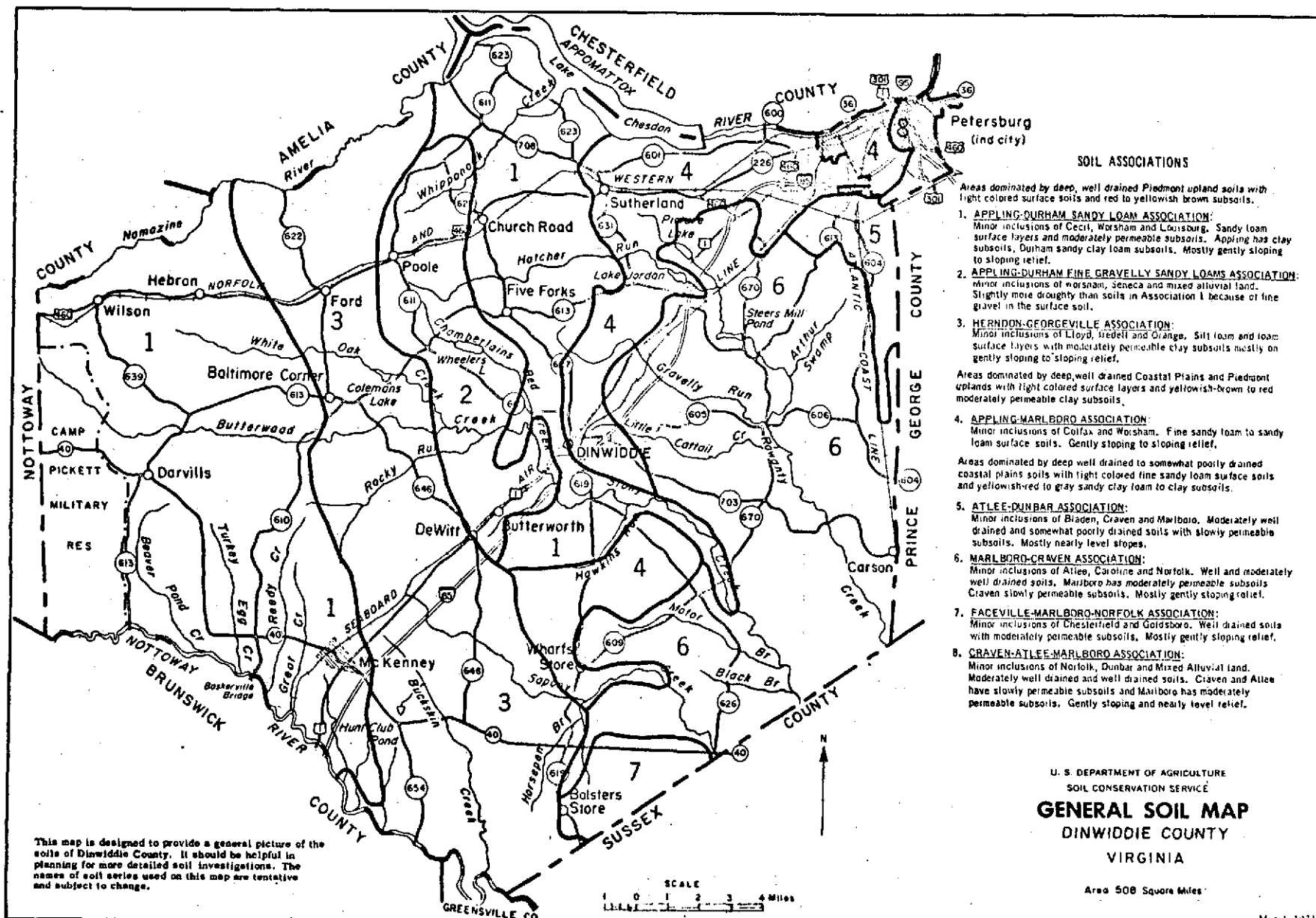
Moulton A. Bailey
200 N. Main Street
Suffolk, Virginia 23434

Nansemond County

Kenneth E. Fussell
P.O. Box 397
Chase City, Virginia 23924

Area 5 - Including Powhatan and Din-
widdie Counties along 14 others mak-
ing up the complete jurisdiction.

Source: L. S. Button, State Conservation Engineer, Soil Hydrology,
Federal Building 7th Floor, Richmond, Virginia



Rating Levels:
 1. Slight Limitations
 2. Moderate Limitations
 3. Severe Limitations

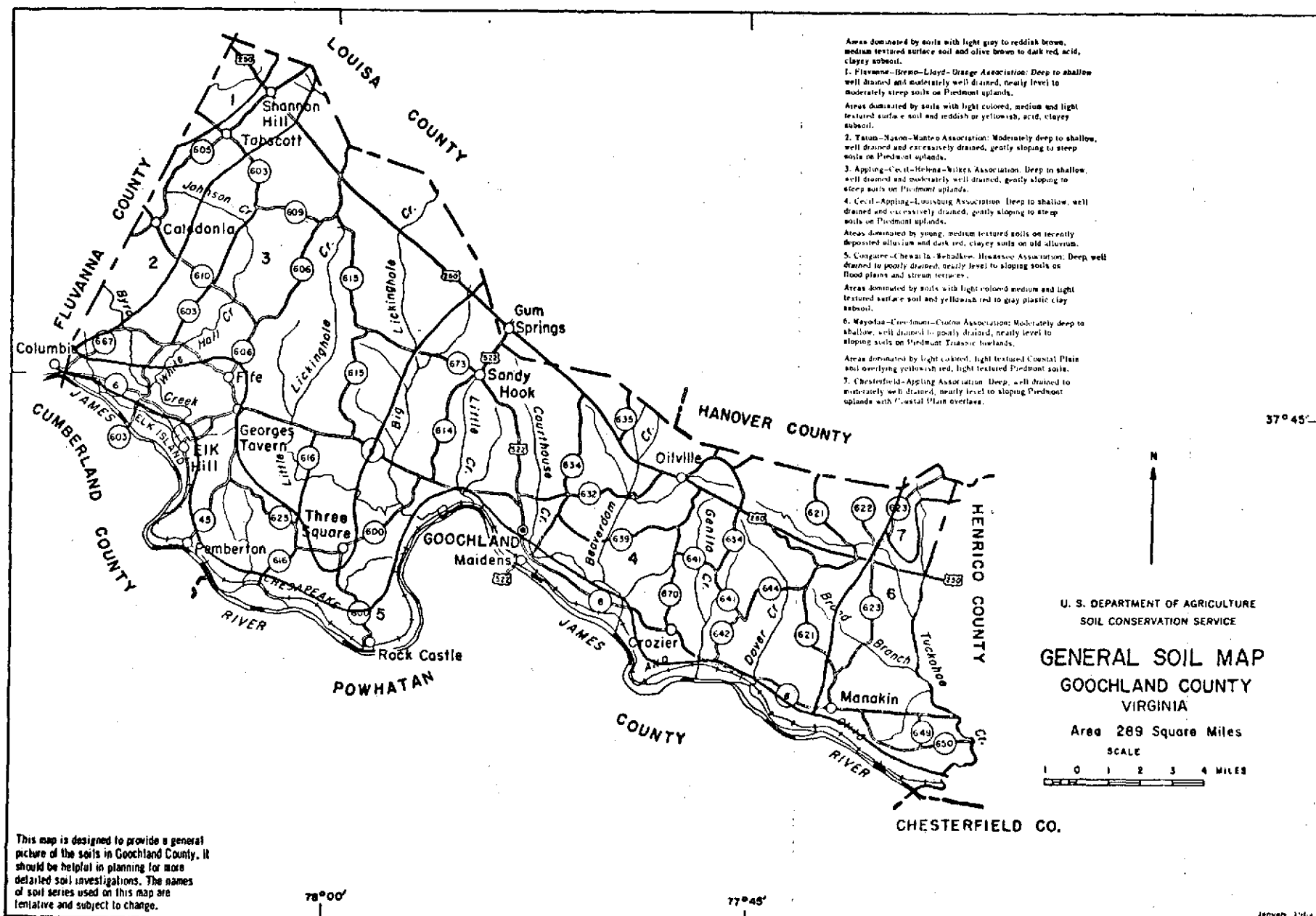
Ratings of Soil Associations for
 Dinwiddie County according to
 limitations for selected uses (1)

Soil Associations	% of Assn. in County	% of Assn.	Septic Systems	Sewage Lagoons	Building Foundations	Streets & Parking	Landfills	Lawns & Landscaping	Basements	Athletic Fields	Picnic Areas	Camps & Tents
1. Appling	32	75	2	2	1	2	2	1	2	2	1	1
Durham		12	2	2	1	1	2	1	1	2	1	1
Other Soils (2)		13										
2. Appling fine gravelly	9	75	2	2	1	2	2	1	2	2	1	1
Durham fine gravelly		12	2	2	1	1	2	1	1	2	1	1
Other Soils (2)		13										
3. Herndon	20	40	2	2	1	2	2	1	2	2	1	1
Georgeville		40	2	2	1	2	2	1	2	2	1	1
Other Soils (2)		20										
4. Appling	13	60	2	2	1	2	2	1	2	2	1	1
Marlboro		30	2	2	1	2	2	1	2	2	1	1
Other Soils (2)		10										
5. Atlee	2	60	3	1	2	2	3	2	3	2	1	2
Dunbar		30	3	2	2	2	3	2	3	3	2	2
Other Soils (2)		10										
6. Marlboro	20	60	2	2	1	2	2	1	2	2	1	1
Craven		15	3	1	1	3	3	1	3	2	1	2
Other Soils (2)		25										
7. Norfolk	3	40	1	2	1	1	2	1	1	2	1	1
Faceville		30	2	2	1	2	2	1	1	2	1	1
Marlboro		20	2	2	1	2	2	1	2	2	1	1
Other Soils (2)		10										
8. Craven	1	35	3	1	1	3	3	1	3	2	1	2
Atlee		25	3	1	2	2	3	2	3	2	2	2
Marlboro		20	2	2	1	2	2	1	2	2	1	1
Other Soils (2)		20										

(1) Ratings are for slopes of 2 to 7 percent except for Atlee and Dunbar which range from 0 to 2 percent slopes.

(2) Other soils not rated because of variations in characteristics.

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Rating levels:
 1. Slight limitations
 2. Moderate limitations
 3. Severe limitations

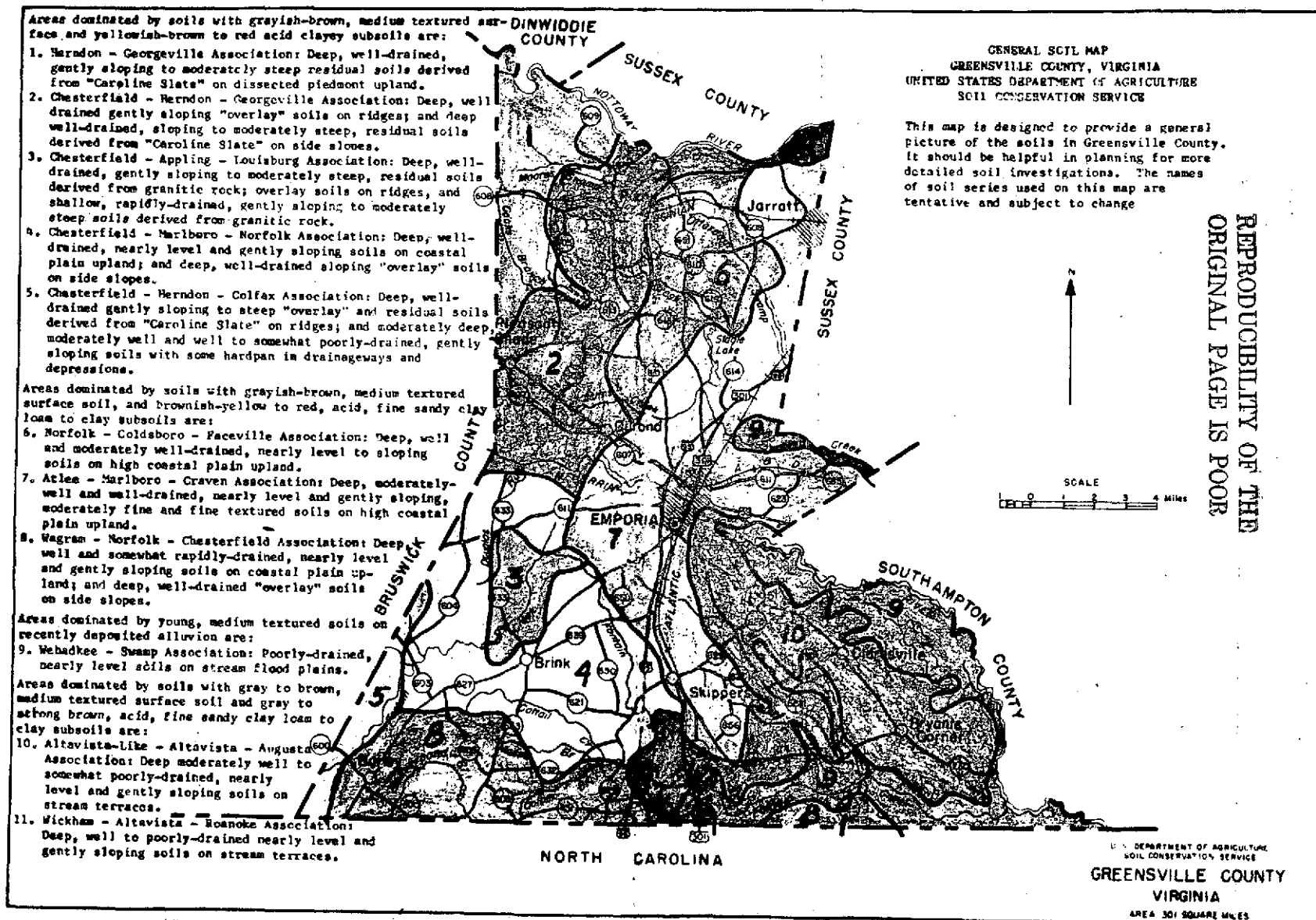
Ratings of Soil Associations for Goochland County According
 to Limitations for Selected Land Uses 1/

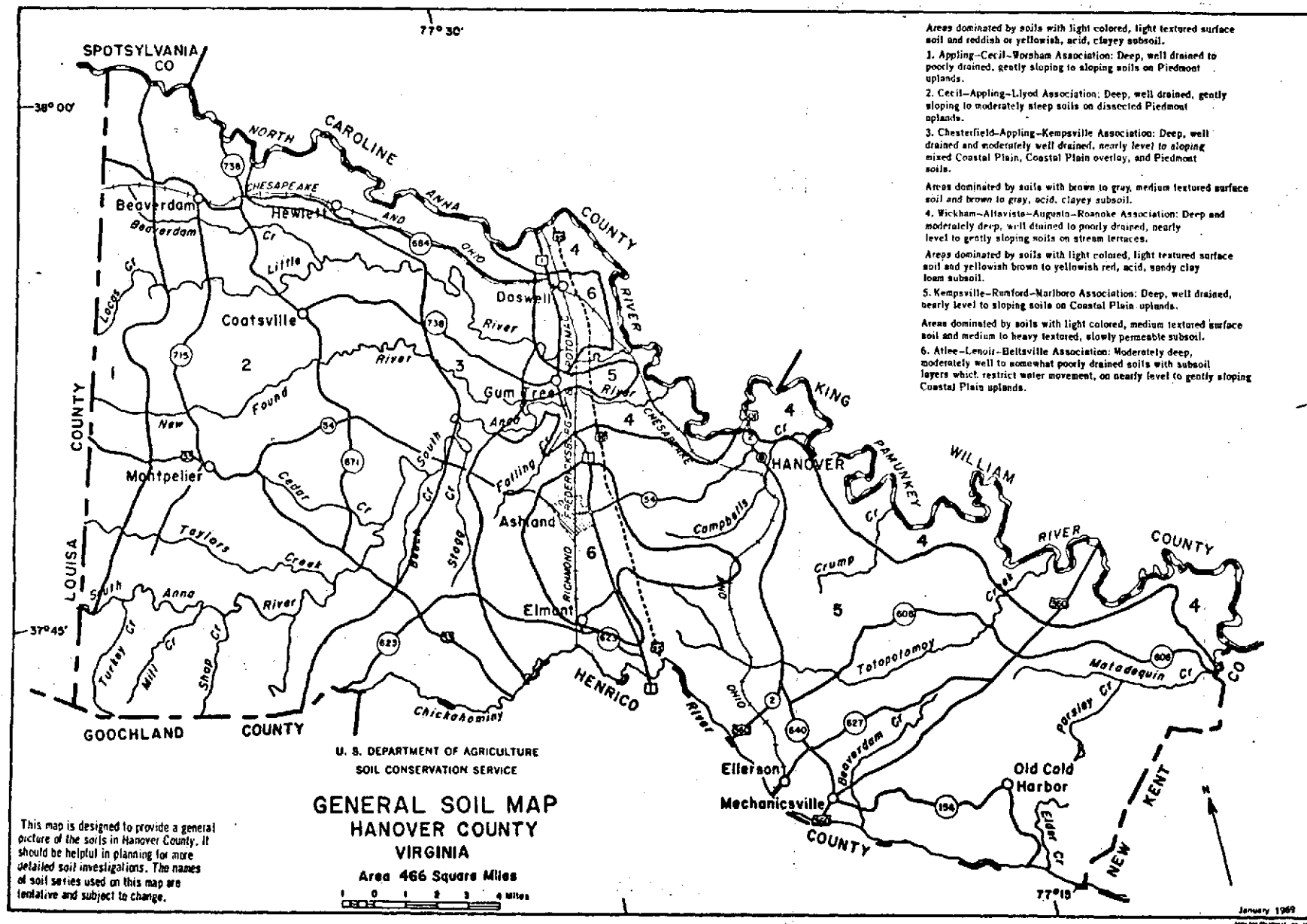
Soil Associations	% of Asso.	Septic Tanks	Bldg. Founda.	Basements	Sts. & Parking	Ponds	Seepage Lagoons	Winter Grading	Cemeteries	Landfills	Picnic Areas	Crops - General	Pasture	Forest
1. Fluvanna	30	2	2	2	1	1	2	2	1	1	1	2	2	2
Bremo	20	3	1	3	2	2	3	1	3	3	2	3	2	2
Lloyd	20	2	2	1	2	2	2	2	2	2	3	1	1	2
Orange	20	3	3	2	3	1	2	3	3	3	3	3	3	3
Other soils <u>2/</u>	10													
2. Tatum	60	2	1	2	1	1	2	2	1	2	1	2	2	3
Nason	20	2	2	2	2	1	1	2	1	2	1	3	2	3
Manteo	10	3	1	3	2	2	2	1	3	3	2	3	3	3
Other soils <u>2/</u>	10													
3. Appling	35	2	2	2	2	1	1	2	1	2	1	2	2	2
Cecil	30	2	2	2	1	2	2	2	1	2	1	2	2	2
Helena	15	3	3	2	3	1	2	3	2	3	3	3	3	3
Wilkes	10	3	2	3	2	2	3	2	2	3	2	3	3	3
Other soils <u>2/</u>	10													
4. Cecil	50	2	2	2	1	2	2	2	1	2	1	2	2	2
Appling	20	2	2	2	2	1	1	2	1	2	1	2	2	2
Louisburg	10	2	1	3	2	2	2	2	3	2	2	3	2	2
Other soils <u>2/</u>	20													
5. Congaree	20	3	3	3	3	2	3	3	3	3	3	1	1	1
Chewacla	20	3	3	3	3	1	3	3	3	3	3	2	2	2
Wehadkee	10	3	3	3	3	1	3	3	3	3	3	3	3	3
Hivasssee	35	2	2	1	1	2	2	3	2	2	2	1	1	1
Other soils <u>2/</u>	15													
6. Mayodan	45	2	2	2	2	1	1	3	1	2	2	2	2	2
Creedmoor	25	3	3	3	3	1	1	3	3	3	3	3	3	3
Croton	15	3	3	3	3	1	1	3	3	3	3	3	3	3
Other soils <u>2/</u>	15													
7. Chesterfield	45	2	2	1	1	1	1	2	2	2	1	2	2	2
Appling	45	2	2	2	2	1	1	2	1	2	1	2	2	2
Other soils <u>2/</u>	10													

1/ These ratings are for 0-7% slopes. When steeper slopes or stony or rocky conditions are encountered, limitations are greater. These ratings are only a general guide. For specific sites, detailed soil surveys and investigations are needed.

2/ Other soils in each Soil Association are too variable to rate.

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Rating levels:

1. Slight limitations
2. Moderate limitations
3. Severe limitations

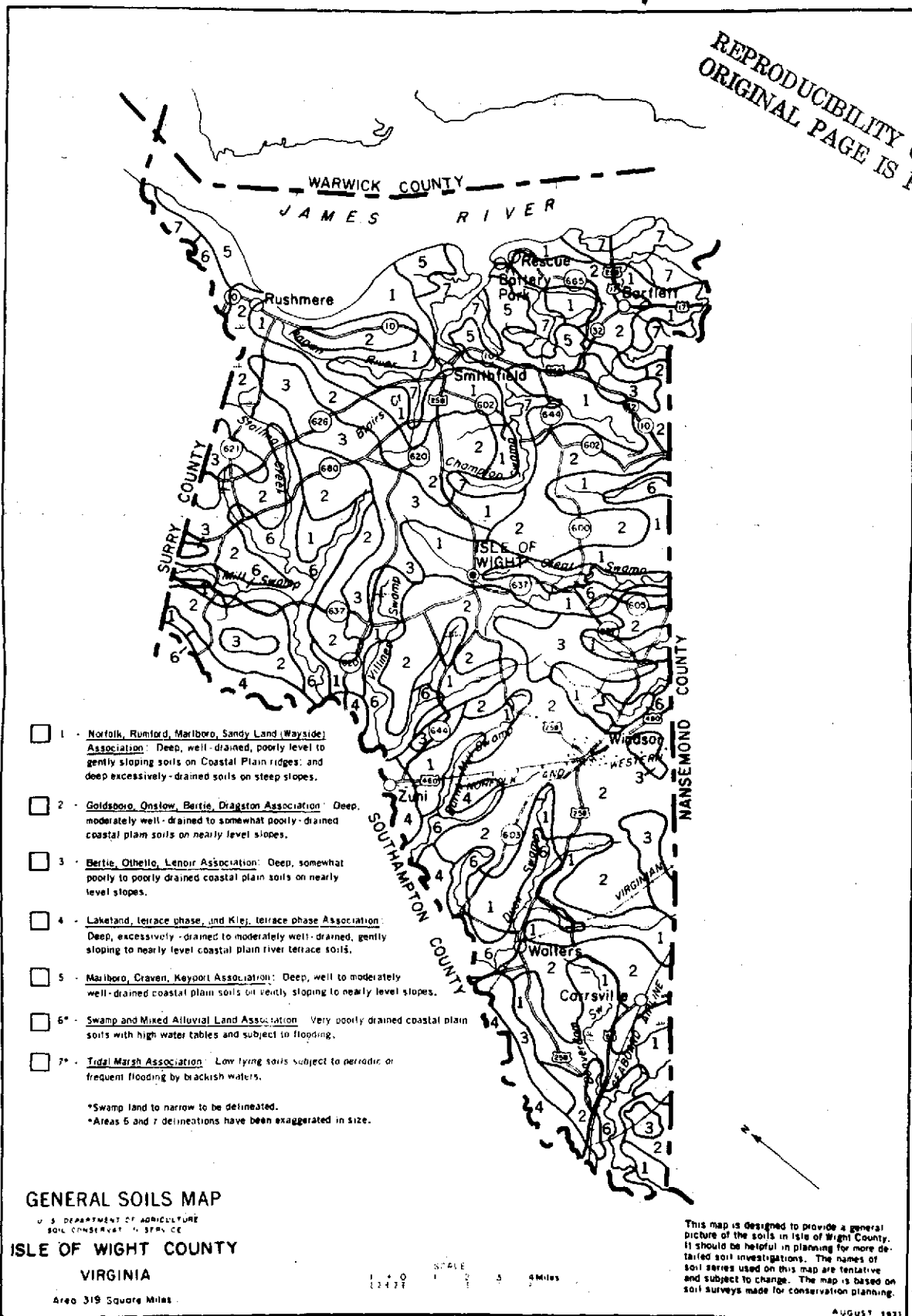
Ratings of Soil Associations for Hanover County According to Limitations for Selected Land Uses 1/

Soil Associations	% of Asso.	Septic Tanks	Bldg. Foundations	Basements	Sts. & Parking	Ponds	Seepage Lagoons	Winter Grading	Cemeteries	Landfills	Picnic Areas	Crops - General	Pasture	Forest
1. Appling	50	2	1	1	2	1	2	2	1	1	1	2	2	2
Cecil	35	2	1	1	1	2	2	2	1	1	1	2	2	2
Worsham	5	3	3	3	3	1	1	3	3	3	3	3	3	3
Other soils <u>2/</u>	10													
2. Cecil	40	2	1	1	1	2	2	2	1	1	1	2	2	2
Appling	30	2	1	1	2	1	2	2	1	1	1	2	2	2
Lloyd	10	2	1	1	2	2	2	2	2	1	2	1	1	2
Other soils <u>2/</u>	20													
3. Chesterfield	40	2	1	1	1	1	2	2	1	1	1	2	2	2
Appling	25	2	1	1	2	1	2	2	1	1	1	2	2	2
Kempville	15	1	1	1	1	3	3	2	1	1	1	2	2	2
Other soils <u>2/</u>	20													
4. Wickham	35	1	1	1	1	2	2	2	1	1	1	1	1	2
Altavista	30	2	2	2	2	1	2	2	2	2	1	2	2	2
Augusta	10	3	3	3	3	1	2	3	3	3	3	3	2	2
Rosnoke	15	3	3	3	3	1	3	3	3	3	3	3	3	2
Other soils <u>2/</u>	10													
5. Kempville	30	1	1	1	1	3	3	2	1	1	1	2	2	2
Rumford	25	1	1	1	1	3	3	1	1	1	1	2	2	2
Marlboro	25	2	1	1	2	2	2	1	1	1	1	2	2	2
Other soils <u>2/</u>	20													
6. Atlee	35	2	2	2	2	2	2	3	2	2	2	2	2	2
Lenoir	20	3	3	3	2	1	1	3	3	3	3	3	2	2
Beltaville	20	3	2	2	2	2	2	3	3	3	2	3	2	3
Other soils <u>2/</u>	25													

1/ These ratings are for 0-7% slopes. When steeper slopes or stony or rocky conditions are encountered, limitations are greater. These ratings are only a general guide. For specific sites, detailed soil surveys and investigations are needed.

2/ Other soils in each Soil Association are too variable to rate.

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**RATINGS OF SOIL ASSOCIATIONS FOR ISLE OF WIGHT COUNTY ACCORDING
TO LIMITATIONS FOR SELECTED USES (1)**

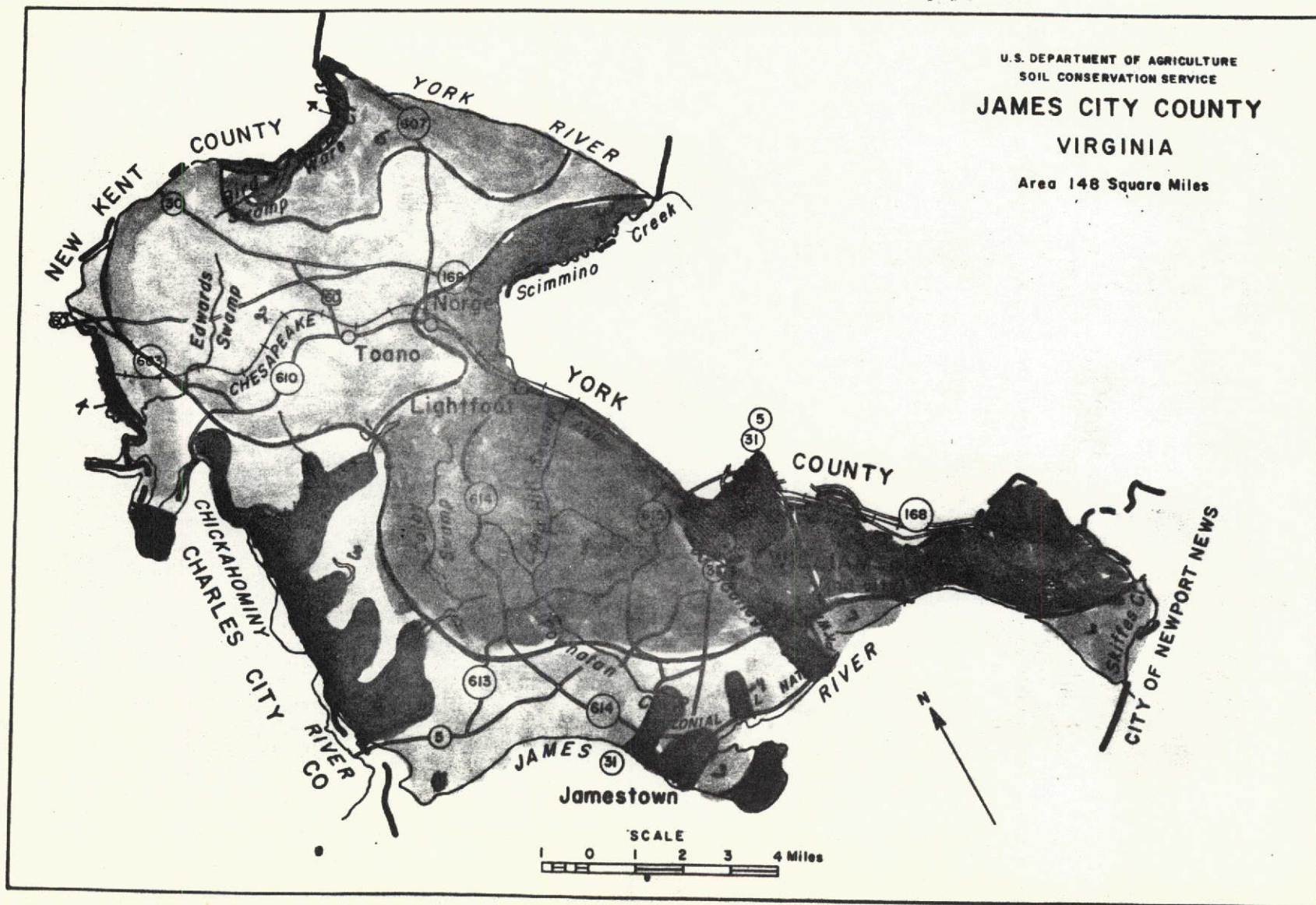
Rating levels:

1. Slight limitations
2. Moderate limitations
3. Severe limitations

Soil Associations	% of Asso.	PCNDS											CAMP SITES		
		Septic Tanks	Build. (2) Foundations	Sta. & Parkg.	Impoundments	Dug	Sewage Lagoons	Winter Grading	Cemeteries	Landfills	Picnic Areas	Athl. Fields	Tents	Trailers	Lawns & Golf Fairways
1. Norfolk	35	1	1	1	1	3	2	1	1	1	1	1	1	1	1
Rumford	30	1	1	1	2	3	3	1	1	1	1	1	1	1	2
Marlboro	5	2	1	1	1	3	2	3	2	1	1	1	1	1	1
Sandy land (Wayside)	7	3	3	3	1	3	3	(4)	3	3	2	3	2	3	2
Other Soils (4)	23														
2. Goldsboro	40	2	1	2	1	3	2	3	2	3	1	2	2	2	1
Onslow, Woodstown	15	2	1	2	2	3	3	2	2	3	1	2	2	2	1
Pertie	20	3	2	2	2	2	2	3	3	3	2	3	3	3	2
Dragston	5	3	2	2	2	2	3	3	3	3	2	3	3	3	2
Other Soils (4)	20														
3. Pertie	40	3	2	2	2	2	2	3	3	3	2	3	3	3	2
Othello Heavy Substratum	30	3	2	3	1	1	1(3)	3	3	3	3	3	3	3	2
Lenoir	5	3	2	2	2	2	2	3	3	3	2	3	3	3	2
Other Soils (4)	25														
4. Lakeland	60	2(7)	1	1	3	3	3	3	3	3	2	3	3	3	3(6)
Klej	20	2	2	2	3	2	3	2	3	3	1	2	2	3	2
Other Soils (4)	20														
5. Marlboro	40	2	1	1	2	3	2	3	2	1	1	1	1	1	1
Craven & Keyport	45	3	2	2	2	3	1	3	3	2	2	2	2	2	2
Other Soils (4)	15														
6. Swamp	70	3	3	3	2	1	3	3	3	3	3	3	3	3	3
Mixed Alluvial Land	15	3	3	3	1	1	3	3	3	3	3	3	3	3	3
Other Soils (4)	15														
7. Tidal Marsh	95	3	3	3	2	1(5)	3	3	3	3	3	3	3	3	3
Other Soils (4)	5														

- (1) These ratings are for 0-6% slopes. When steeper slopes are encountered, limitations are greater. The ratings are only a general guide. For specific sites, a more detailed investigation is needed.
- (2) The soils in Isle of Wight are generally unsuitable for basement construction. On most of the soils there is a seasonal water table within five feet. However, there are a few places on the well drained soils that basements can be satisfactorily constructed. These areas are on the sandy ridges and adjacent to the large natural drainageways. All ratings assume proper surface drainage.

- (3) Othello sandy substratum at 36"-42" rates moderate for sewage lagoons.
- (4) Too variable to rate.
- (5) Tidal marsh has a slight limitation when salt water can be excluded. Otherwise it has a severe limitation for fresh water pond.
- (6) Moderate with drought resistant grasses.
- (7) Rapid permeability, danger of polluting ground water.

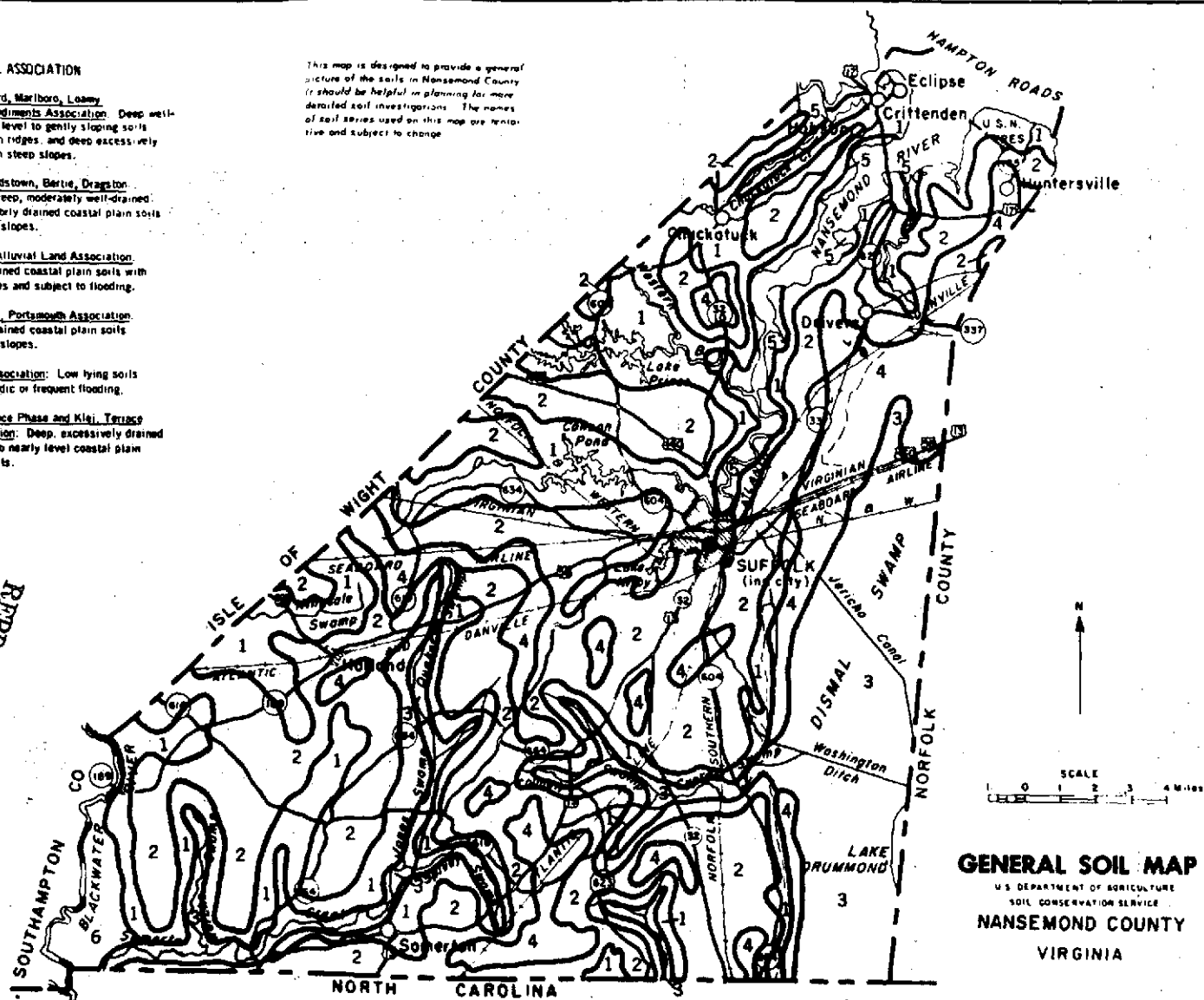


SOIL ASSOCIATION

- 1 Norfolk, Runford, Marlboro, Loamy and Gravelly Sediments Association: Deep well-drained, nearly level to gently sloping soils on coastal plain ridges, and deep excessively drained soils on steep slopes.
- 2 Goldsboro, Woodstown, Bertie, Dragston Association: Deep, moderately well-drained to somewhat poorly drained coastal plain soils on nearly level slopes.
- 3 Swamp, Mixed Alluvial Land Association: Very poorly drained coastal plain soils with high water tables and subject to flooding.
- 4 Othello, Bladen, Portsmouth Association: Deep, poorly drained coastal plain soils on nearly level slopes.
- 5 Tidal Marsh Association: Low lying soils subject to periodic or frequent flooding.
- 6 Lakeland, Terrace Phase and Kila, Terrace Phase Association: Deep, excessively drained gently sloping to nearly level coastal plain river terrace soils.

This map is designed to provide a general picture of the soils in Nansemond County. It should be helpful in planning for more detailed soil investigations. The names of soil series used on this map are tentative and subject to change.

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Rating levels:

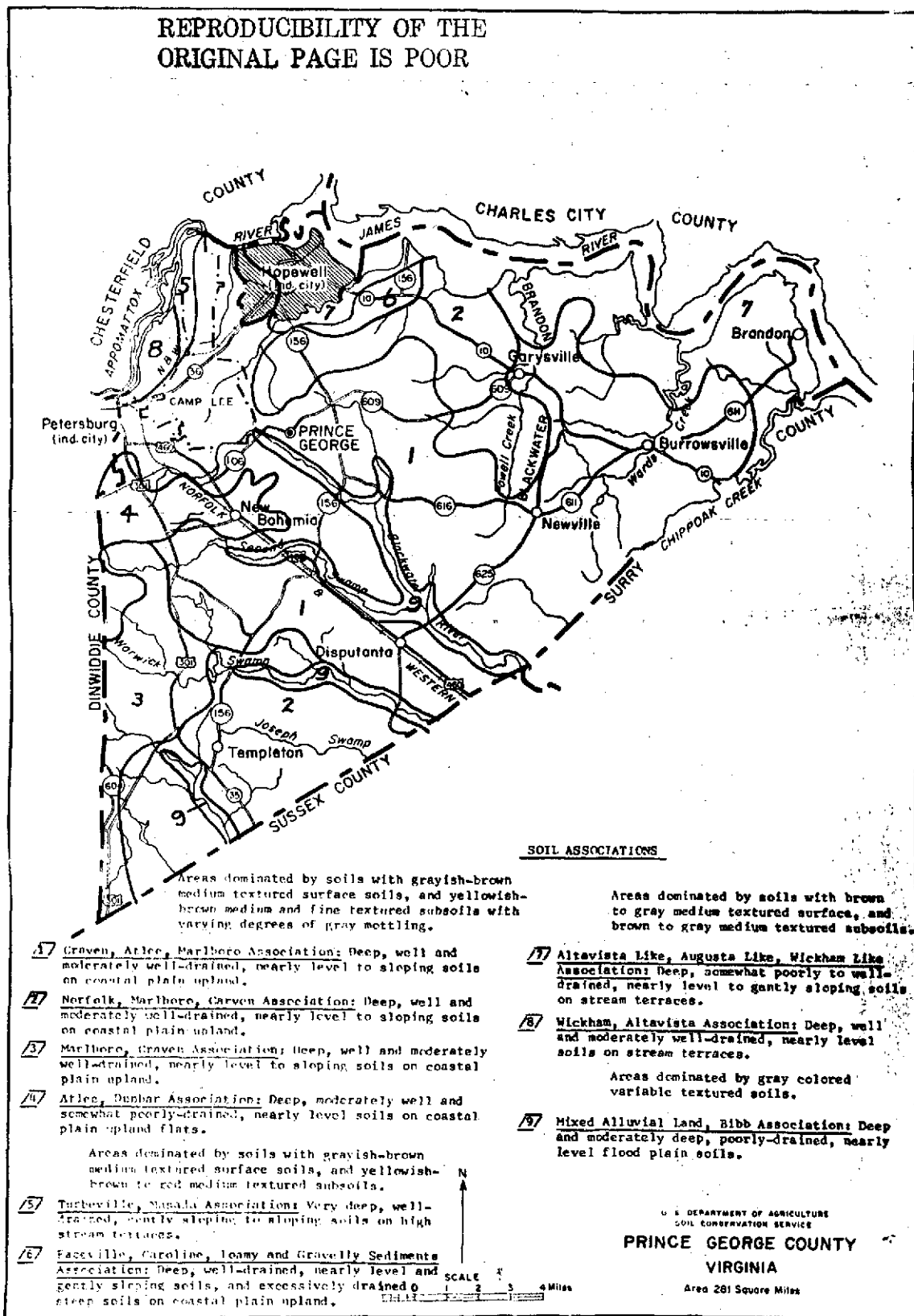
1. Slight limitations
2. Moderate limitations
3. Severe limitations

RATINGS OF SOIL ASSOCIATIONS FOR NANSEMOND COUNTY ACCORDING TO LIMITATIONS FOR SELECTED USES (1)

Soil Associations	% of Asso.	Septic Tanks	Build.(2) Founds.	Sts. & Parkg.	POND					Landfills	Picnic Areas	Athl. Fields	CAMP SITES			Lawns & Golf Fairways
					Impoundments	Dug	Sewage Lagoons	Winter Grading	Cemeteries				Tents	Trailers		
1. Norfolk	40	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1
Rumford	20	1	1	1	2	3	3	1	2	1	1	1	1	1	1	2
Marlboro	10	2	1	1	1	3	2	3	2	1	1	1	1	1	1	1
Loamy & Gravelly Land	10	3	3	3	1	3	3	(4)	3	3	2	3	2	3	3	2
Other Soils (4)	20															
2. Goldsboro	35	2	1	2	1	3	3	3	2	3	1	2	2	2	2	1
Woodstown	15	2	1	2	2	3	3	2	2	3	1	2	2	2	2	1
Bertie	35	3	2	2	2	2	2	3	3	3	2	3	3	3	3	2
Dragston	10	3	2	2	2	2	3	3	3	3	2	3	3	3	3	2
Other Soils (4)	5															
3. Swamp	70	3	3	3	2	1	3	3	3	3	3	3	3	3	3	3
Mixed Alluvial Land	15	3	3	3	1	1	3	3	3	3	3	3	3	3	3	3
Other Soils (4)	15															
4. Othello Heavy Substratum	70	3	2	3	1	1	1(3)	3	3	3	3	3	3	3	3	2
Bladen	10	3	2	3	2	1	1	3	3	3	2	3	3	3	3	2
Portsmouth	10	3	2	3	3	1	2	3	3	3	3	3	3	3	3	2
Other Soils (4)	10															
5. Tidal Marsh	95	3	3	3	3	1(5)	3	3	3	3	3	3	3	3	3	3
Other Soils (4)	5															
6. Lakeland	70	2(7)	1	1	3	3	3	3	3	3	2	3	3	3	3	3(6)
Kleij	20	2	2	2	3	2	3	2	3	3	1	2	2	3	2	2
Other Soils (4)	10															

- (1) These ratings are for 0-6% slopes. When steeper slopes are encountered, limitations are greater. The ratings are only a general guide. For specific sites, a more detailed investigation is needed.
- (2) The soils in Nansemond are generally unsuitable for basement construction. On most of the soils there is a seasonal water table within five feet. However, there are a few places on the well drained soils that basements can be satisfactorily constructed. These areas are on the sandy ridges and adjacent to the large natural drainageways. All ratings assume proper surface drainage.
- (3) Othello sandy substratum at 36"-42" rates moderate for sewage lagoons.
- (4) Too variable to rate.
- (5) Tidal marsh has a slight limitation when salt water can be excluded. Otherwise it has a severe limitation for a fresh water pond.
- (6) Moderate with drought resistant grasses.
- (7) Rapid permeability, danger of polluting ground water.

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47 Norfolk, Dumfries, Marlboro and loamy and Gravelly Sediments Association: Deep well-drained, nearly level to gently sloping soils on Coastal Plain ridges; and deep excessively drained soils on steep slopes.

47 Colchester, Woodstown, Dunbar, Draxton Association: Deep, moderately well-drained to somewhat poorly drained Coastal Plain soils on nearly level slopes.

47 Dunbar, (Gibbs), Lenoir Association: Deep, poorly drained to somewhat poorly drained Coastal Plain soils on nearly level slopes.

47 Inxeland, Terrace Phase and Klej, Terrace Phase Association: Deep, excessively drained gently sloping to nearly level Coastal Plain River Terrace soils.

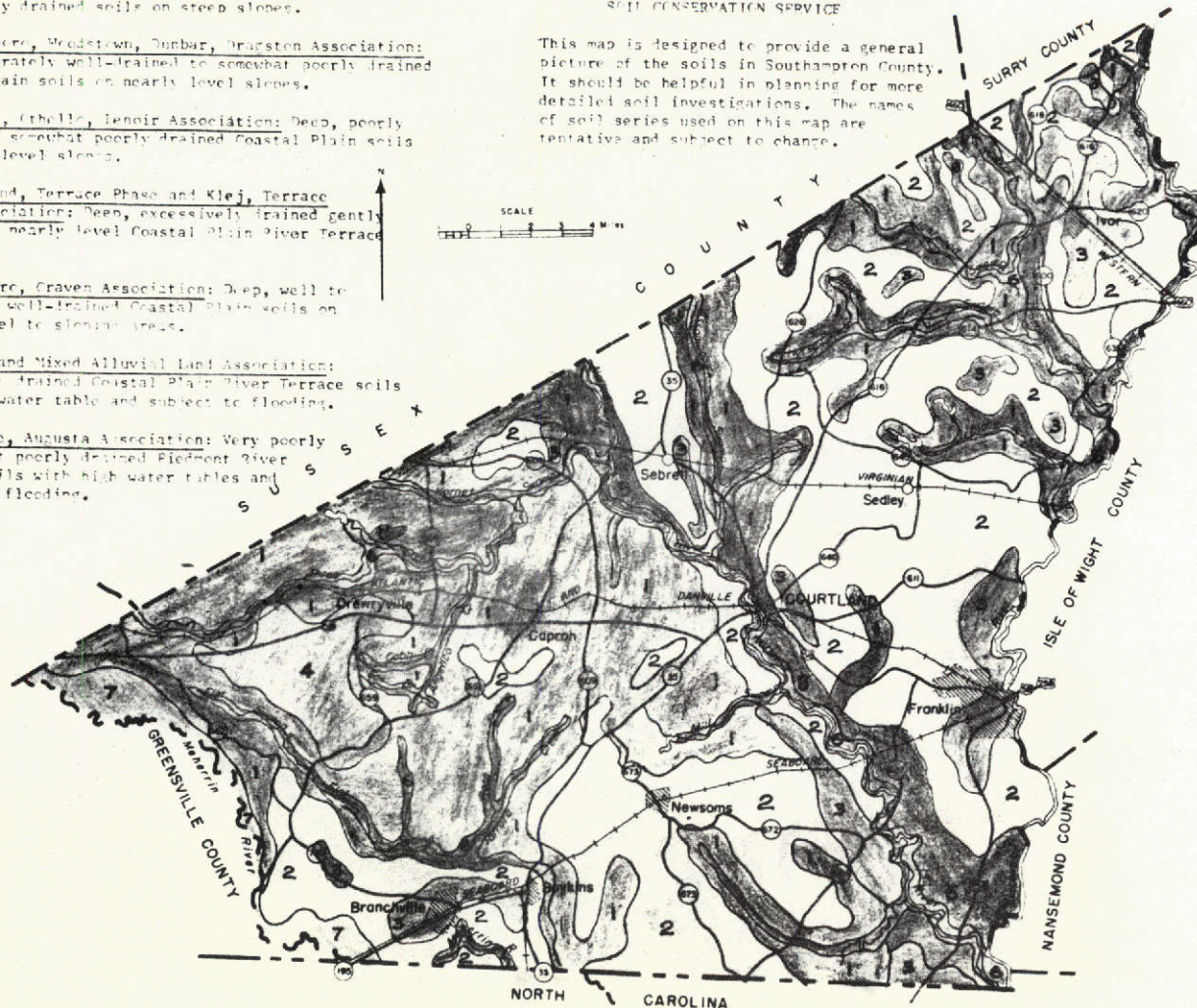
47 Marlboro, Craven Association: Deep, well to moderately well-drained Coastal Plain soils on nearly level to sloping areas.

47 Swamp and Mixed Alluvial Land Association: Very poorly drained Coastal Plain River Terrace soils with high water table and subject to flooding.

47 Bennetts, Augusta Association: Very poorly to somewhat poorly drained Piedmont River Terrace soils with high water tables and subject to flooding.

GENERAL SOIL MAP
SOUTHAMPTON COUNTY, VIRGINIA
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

This map is designed to provide a general picture of the soils in Southampton County. It should be helpful in planning for more detailed soil investigations. The names of soil series used on this map are tentative and subject to change.

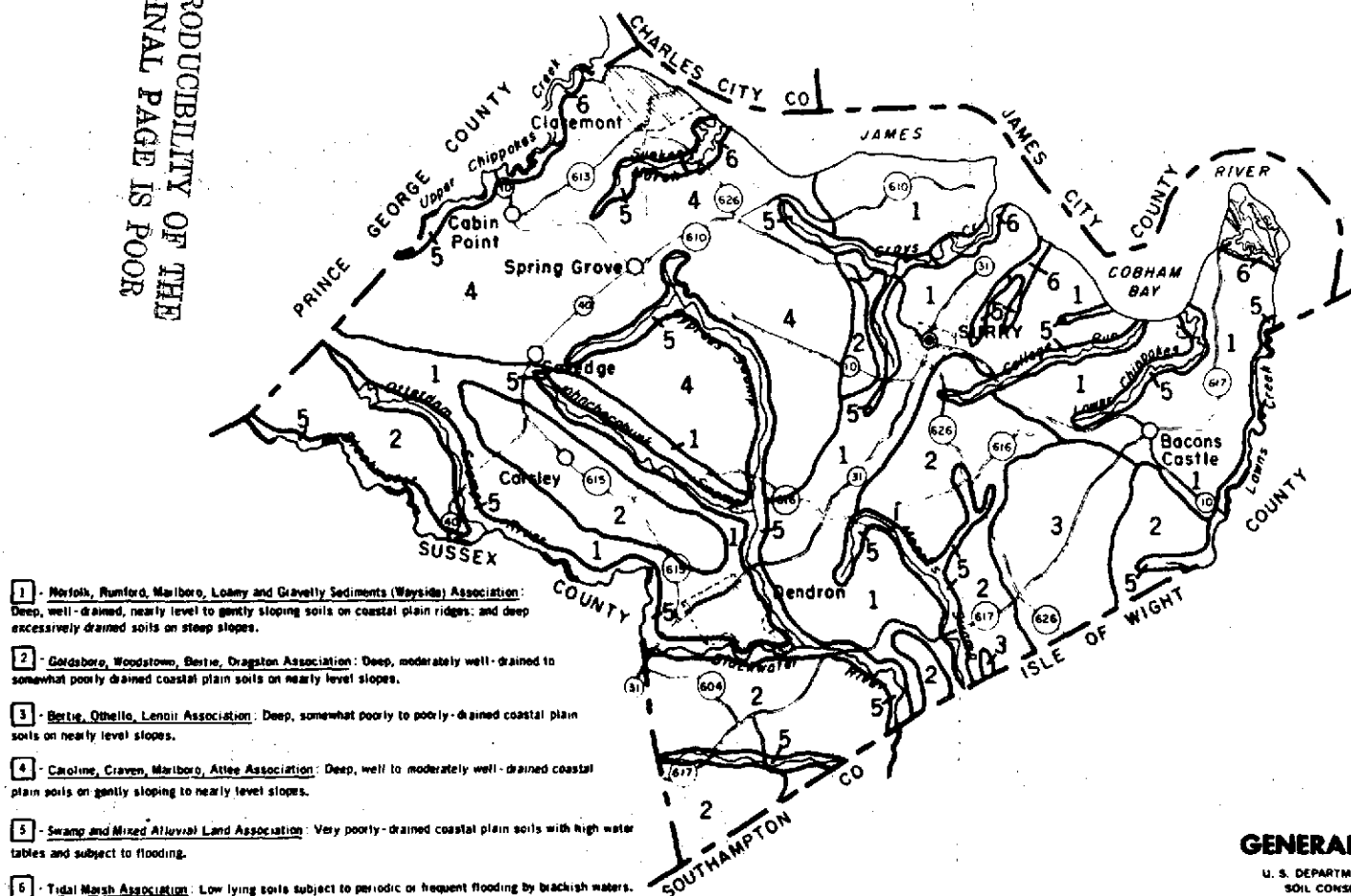


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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SOUTHAMPTON COUNTY
VIRGINIA
Area 607 Square Miles
July 1963

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GENERAL SOIL MAP

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SURRY COUNTY
VIRGINIA

Area 280 Square Miles

Scale

1 inch = 1 mile

This map is designed to provide a general picture of the soils in Surry County. It should be helpful in planning for more detailed soil investigations. The names of soil series used on this map are tentative and subject to change.

JUNE 1971

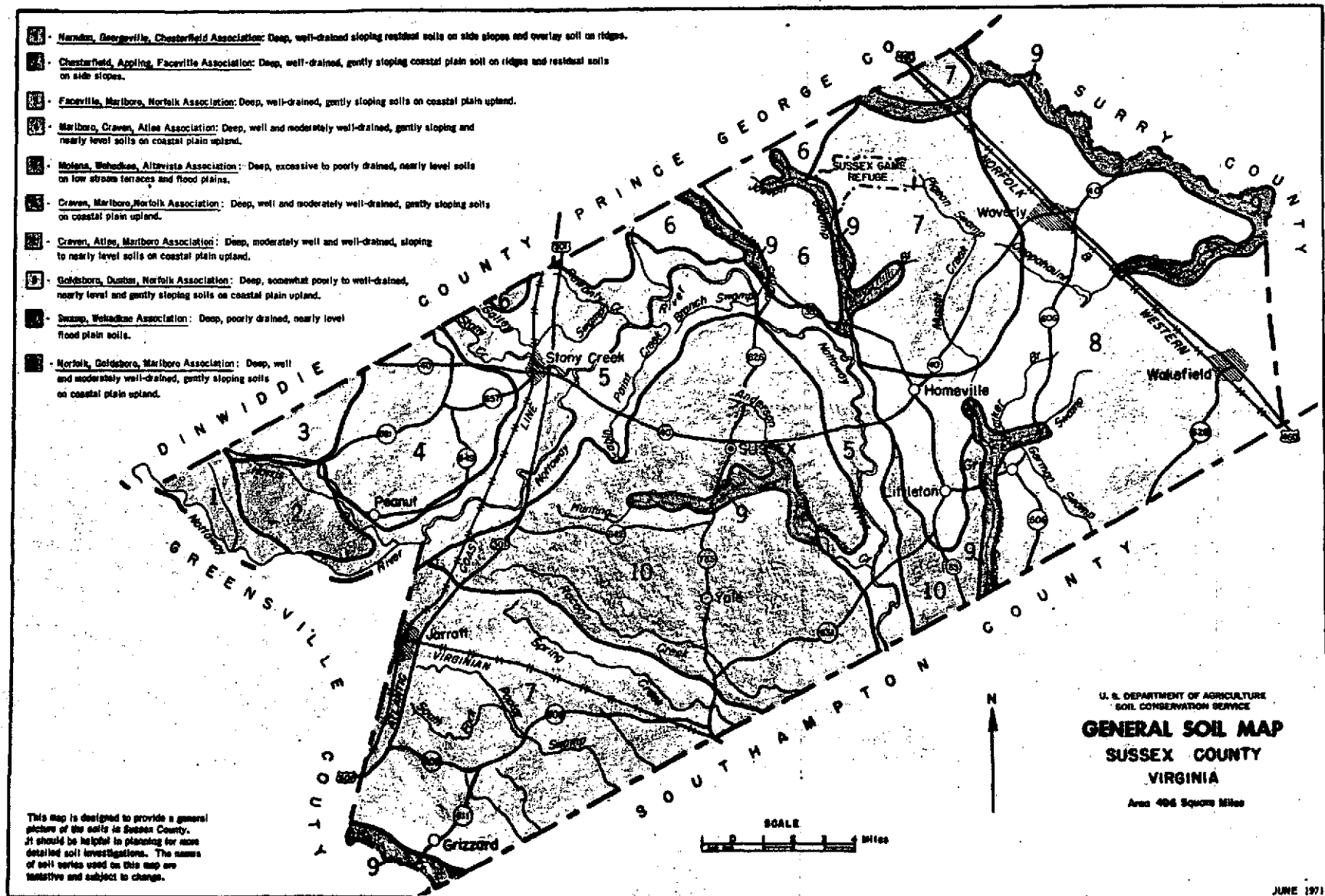
RATINGS OF SOIL ASSOCIATIONS FOR SURRY COUNTY ACCORDING
TO LIMITATIONS FOR SELECTED USES (1)

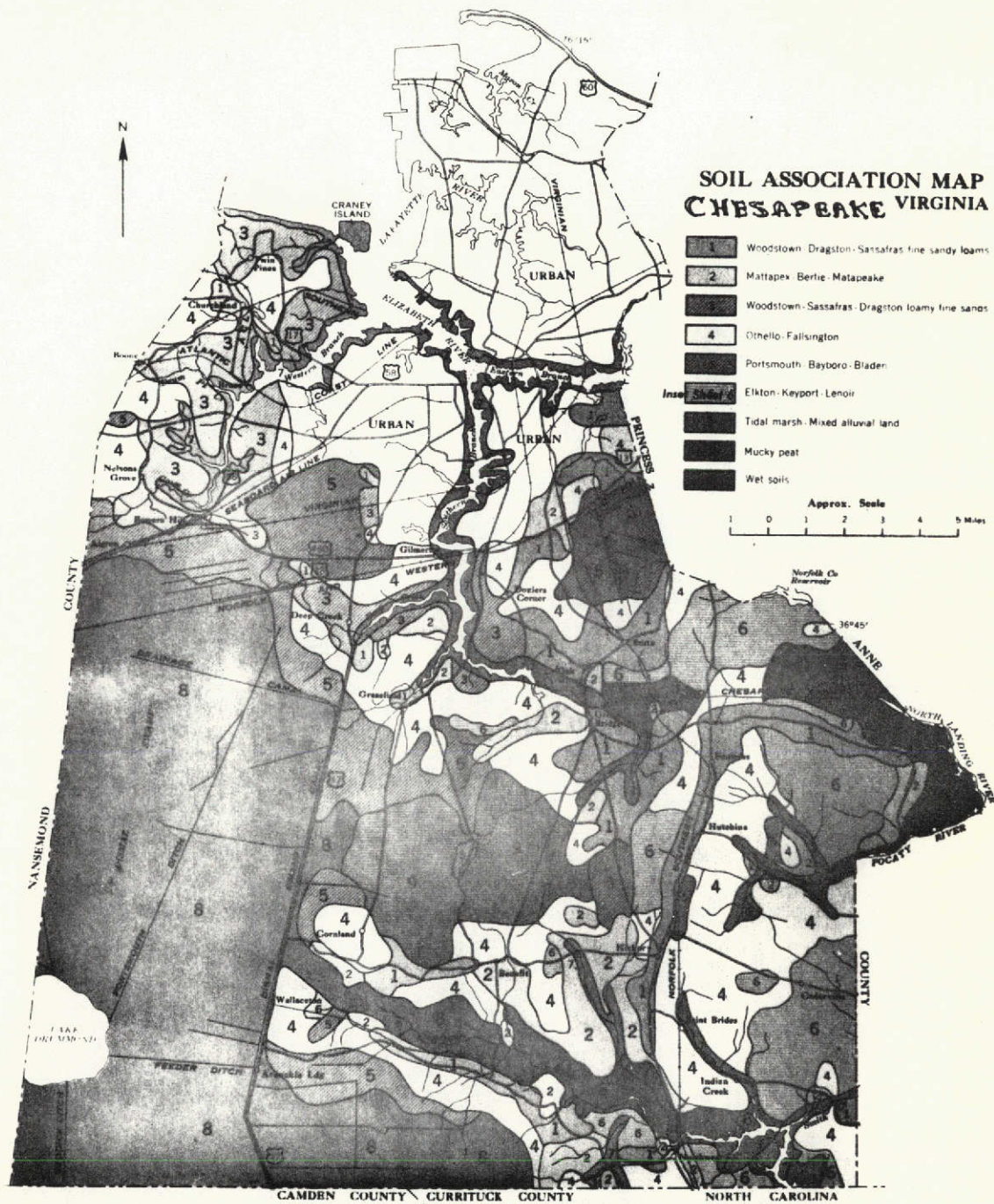
Rating levels:

1. Slight limitations
2. Moderate limitations
3. Severe limitations

Soil Associations	7. of Asso.	PONDUS											CAMP SITES		
		Septic Tanks	Build.(2) Ponds.	Sts. & Parkg.	Impound- ments	Dug	Sewage Lagns.	Winter Grading	Cemeter- ies	Land- fills	Picnic Areas	Athl. Fields	Tents	Trailers	Lawns & Golf Fair- ways.
1. Norfolk	45	1	1	1	1	3	2	1	1	1	1	1	1	1	1
Manford	15	1	1	1	2	3	3	1	1	1	1	1	1	1	2
Marlboro	10	2	1	1	1	3	2	3	2	1	1	1	1	1	1
Loamy & Gravelly Sediments	13	3	3	3	1	3	3	(4)	3	3	2	3	2	3	2
Other Soils (4)	17														
2. Goldsboro	45	2	1	2	1	3	2	3	2	3	1	2	2	2	1
Woodstown	10	2	1	2	2	3	3	2	2	3	1	2	2	2	1
Portie	25	3	2	2	2	2	2	3	3	3	2	3	3	3	2
Dragsden	3	3	2	2	2	2	3	3	3	3	2	3	3	3	2
Other Soils (4)	17														
3. Fertile	50	3	2	2	2	2	2	3	3	3	2	3	3	3	2
Chehlie Heavy Substratum	30	3	2	3	1	1	1(3)	3	3	3	3	3	3	3	2
Lenoir	5	3	2	2	2	2	2	3	3	3	2	3	3	3	2
Other Soils (4)	15														
4. Marlboro	20	2	1	1	2	3	2	3	2	1	1	1	1	1	1
Caroline	35	3	2	2	2	3	1	3	3	2	2	2	2	2	2
Graven	25	3	2	2	2	3	1	3	3	2	2	2	2	2	2
Atlee	5	2	2	2	2	2	2	3	3	3	2	2	2	2	2
Other Soils (4)	5														
5. Swamp	70	3	3	3	2	1	3	3	3	3	3	3	3	3	3
Mixed Alluvial land	15	3	3	3	1	1	3	3	3	3	3	3	3	3	3
Other Soils (4)	15														
6. Tidal Marsh	90	3	3	3	2	1(5)	3	3	3	3	3	3	3	3	3
Other Soils (4)	10														

- (1) These ratings are for 0-5% slopes. When steeper slopes are encountered, limitations are greater. The ratings are only a general guide. For specific sites, a more detailed investigation is needed.
- (2) The soils in Surry County are generally unsuitable for basement construction. On most of the soils there is a seasonal water table within five feet. However, there are a few places on the well drained soils that basements can be satisfactorily constructed. These areas are on the sandy ridges and adjacent to the large natural drainageways. All ratings assume proper surface drainage.
- (3) Chehlie sandy substratum at 36"-42" rates moderate for sewage lagoons.
- (4) Too variable to rate.
- (5) Tidal marsh has a slight limitation when salt water can be excluded. Otherwise it has a severe limitation for a fresh water pond.





GENERAL SOIL MAP
VIRGINIA BEACH CITY, VIRGINIA
UNITED STATES DEPARTMENT OF AGRICULTURE

This map is designed to provide a general picture of the soils in Virginia Beach City. It should be helpful in planning for more detailed soil investigations. The names of soil series used on this map are tentative and subject to change.

Sassafras, Woodstown, Sandy Land (Wayside) Association: Deep well-drained, nearly level to gently sloping soils on coastal plain ridges; and deep excessively drained soils on steep slopes.

Woodstown, Dragston Association: Deep, moderate well-drained to somewhat poorly drained coastal plain soils on nearly level slopes.

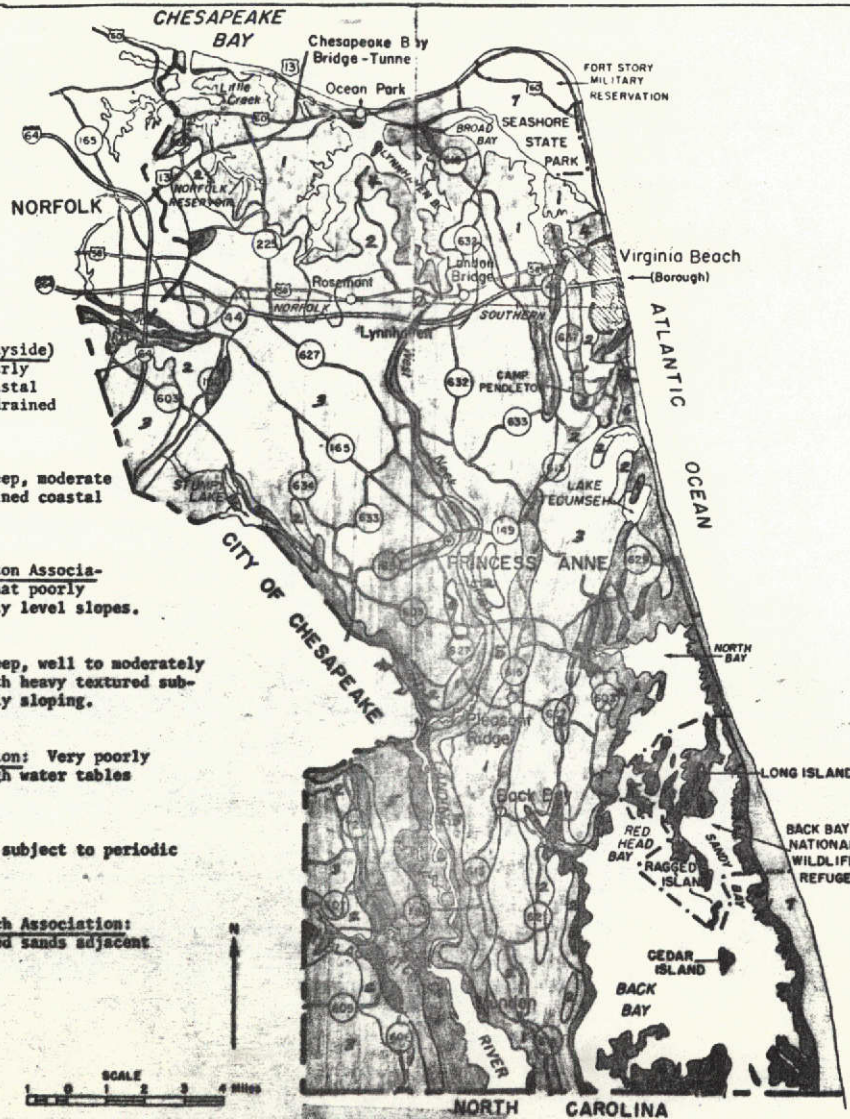
Bladen, Othello, Fallsington, Dragston Association: Deep poorly drained to somewhat poorly drained coastal plain soils on nearly level slopes.

Matapoke, Mattapex Association: Deep, well to moderately well-drained coastal plain soils with heavy textured subsoils that are nearly level to gently sloping.

Swamp, Mixed Alluvial Land Association: Very poorly drained coastal plain soils with high water tables and subject to flooding.

Marsh Association: Low lying soils subject to periodic or frequent flooding.

Dune Sand, Arzell Sand, Coastal Beach Association: Deep excessively drained or saturated sands adjacent to coastal waters.



U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
CITY OF VIRGINIA BEACH
VIRGINIA
Area 301 Square Miles

APPENDIX E

RICHEL SURFACE WATER RECORDS

APPENDIX E

INDEX

DATA SOURCES	E-2
LOCATIONS OF WATER GAGING STATIONS IN RICHEL	E-3
GAGING RECORDS 1966	E-5
GAGING RECORDS 1967	E-18
GAGING RECORDS 1968	E-33
GAGING RECORDS 1969	E-47
GAGING RECORDS 1970	E-62

SOURCE OF FOLLOWING INFORMATION

Water Resource Data for Virginia is a joint effort by both the Department of The Interior and the Virginia Department of Conservation and Economic Development.

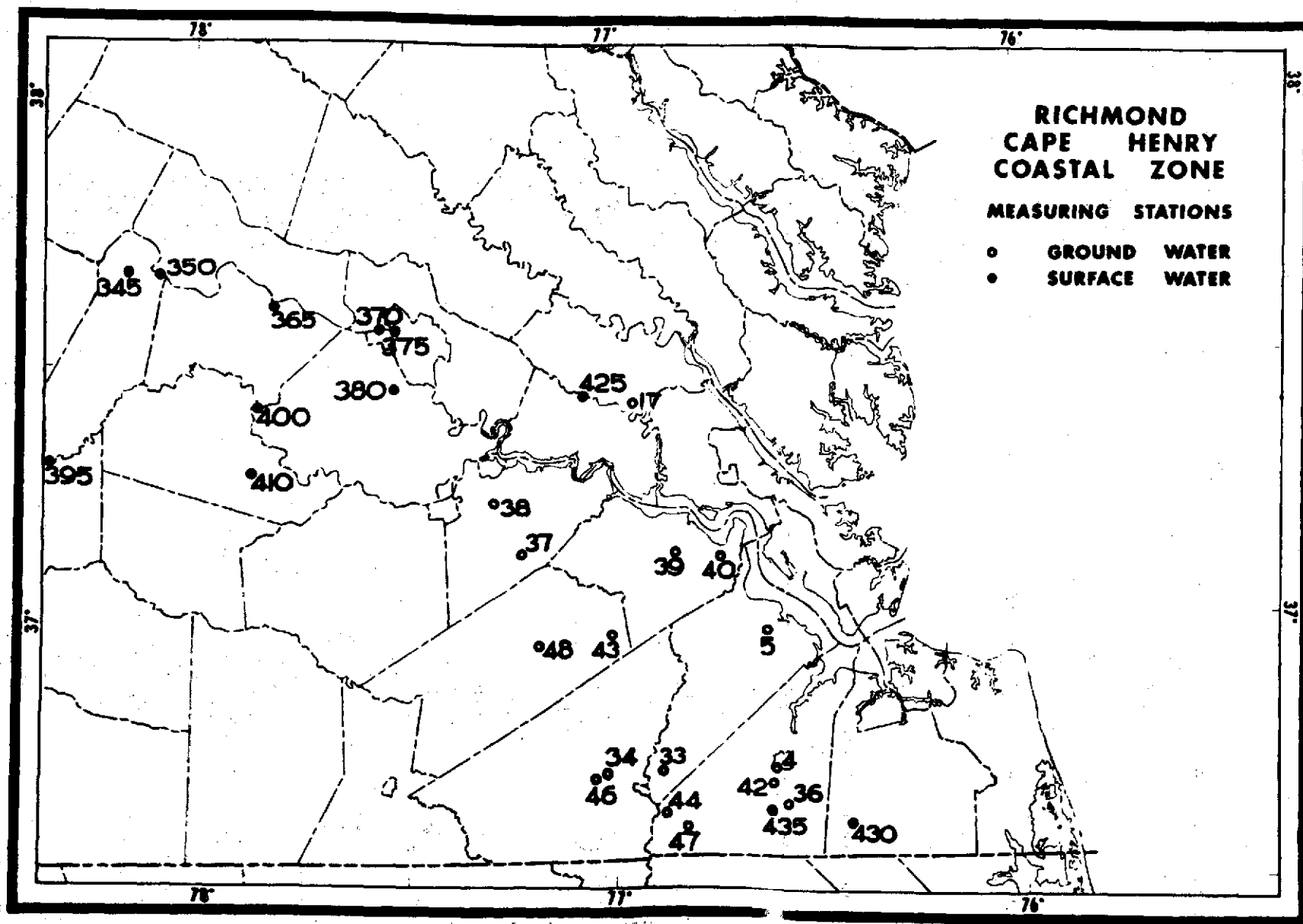
These reports are available yearly in October from District Chief, Water Resources Division, U.S. Geological Survey, Room 304, 200 West Grace Street, Richmond, Virginia 23200. Contained within this report are records of 14 stations as listed on the following page. The data cover the years 1966 to 1970. Beneath each data form the year and page number of the original report have been included to facilitate verification, 66-91 means the 1966 report, page 91.

The Commonwealth of Virginia has not operated a dense ground water observation network in this area of the state. In fact, during the past three to four years a program to increase the number of stations has been actively pursued. Some wells have been abandoned as a result of construction and other reasons. Increased planning in site location will provide better regional information. This is exemplified by the positioning of recent wells. Data from these wells is available though not plotted as a hydrograph in this report due to the short period of observation.

Surface Water Gaging Stations within or
On Waterways Leading Into the Test Site

Station Number

2-0345	Willis River at Flanigan Mills, Cumberland County
2-0350	Cartersville - James River, Goochland County
2-0365	Fine Creek at Fine Creek Mills, Powhatan County
2-0370	James River and Kanawha Canal near Richmond, Henrico County Note: this is a canal only
2-0375	James River near Richmond, Henrico County Note: this is exclusive of canal
2-0380	Falling Creek near Chesterfield, Va., Chesterfield County
2-0388.5	Holiday Creek near Andersonville, Appomattox County
2-0390	Buffalo Creek near Hampton Sydney, Prince Edward County
2-0395	Appomattox River at Farmville, Va., Cumberland County
2-0400	Appomattox River at Mattoax, Va., Amelia County
2-0410	Deep Creek near Mannboro, Va., Amelia County
2-0425	Chickahominy River near Providence, Forge, Virginia, New Kent County
2-0430	Lake Drummond in Dismal Swamp
2-0435	Cypress Swamp at Cypress Chapel, Va.



JAMES RIVER BASIN

2-0345, Willis River at Flanagan Mills, Va.

Location.--Lat 37°40'00", long 78°10'00", on left bank 15 ft upstream from bridge on State Highway 690, 0.4 mile east of Flanagan Mills, Cumberland County, 6.9 miles upstream from mouth, and 7.7 miles downstream from Reynolds Creek.

Drainage area.--247 sq mi.

Records available.--April 1926 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 178.98 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 3, 1935, chain gage at site a quarter of a mile upstream at same datum.

Average discharge.--40 years, 238 cfs.

Extremes.--Maximum discharge during year, 1,690 cfs Mar. 3 (gage height, 12.88 ft); minimum, 1.5 cfs Sept. 13, 14 (gage height, 2.26 ft).

1926-66: Maximum discharge, 9,580 cfs Apr. 27, 1937 (gage height, 23.86 ft, from floodmarks), from rating curve extended above 5,800 cfs on basis of velocity-area studies, with backwater correction; minimum, that of Sept. 13, 14, 1966.

Remarks.--Records good. Complete regulation of flow from Triad Lake (total capacity, about 1,100 ac-ft), tributary to Willis River, slightly affects flow at gage.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	20	25	29	46	1,340	67	169	112	26	21	5.0
2	17	20	24	28	46	1,450	64	323	96	23	19	4.7
3	14	21	24	30	47	1,640	61	653	80	22	21	4.5
4	21	21	25	30	49	699	64	541	69	20	19	4.4
5	19	21	25	30	50	304	60	333	61	19	19	4.2
6	18	22	26	37	52	341	39	216	56	18	27	3.9
7	30	22	26	61	55	270	57	170	48	17	22	3.7
8	90	23	26	64	58	191	54	143	44	17	20	3.1
9	50	24	25	52	65	152	53	121	42	14	27	2.7
10	25	24	25	38	110	137	22	104	132	12	35	2.7
11	22	26	26	32	298	132	58	92	630	11	20	2.4
12	21	28	27	30	594	125	58	85	183	11	38	2.1
13	20	30	28	32	940	117	72	84	99	11	30	1.5
14	19	32	30	30	1,130	113	94	85	71	11	23	5.6
15	18	32	32	28	1,250	103	95	85	58	16	20	20
16	17	30	30	30	1,160	100	82	81	51	13	20	25
17	16	28	30	32	613	93	72	76	65	11	17	14
18	16	28	29	31	189	89	66	70	67	9.7	14	9.1
19	16	26	28	30	235	84	64	70	67	13	12	7.9
20	16	25	27	29	174	82	60	82	68	16	11	105
21	17	24	26	29	142	82	58	76	56	11	10	526
22	18	27	25	29	119	81	74	67	47	9.4	10	574
23	20	34	25	28	107	72	83	58	39	8.2	9.0	450
24	22	42	24	40	111	73	80	53	38	6.8	8.0	133
25	20	38	25	70	113	89	77	53	34	6.2	7.2	68
26	19	35	28	60	218	90	82	149	30	5.8	7.0	50
27	19	31	28	50	246	81	137	179	28	5.4	6.7	47
28	19	30	27	48	477	73	264	474	27	5.0	6.5	37
29	20	28	25	48	-----	68	296	440	26	5.2	6.2	164
30	20	27	27	47	-----	67	274	195	26	7.6	5.8	169
31	20	-----	30	46	-----	58	-----	125	-----	14	5.4	-----
Total	686	819	828	1,198	9,144	1,406	2,687	5,442	2,450	393.3	516.8	2,449.3
Mean	22.1	27.3	26.7	38.6	327	271	89.6	176	81.7	12.7	16.7	82.3
Cfsm	0.089	0.111	0.108	0.156	1.32	1.10	0.363	0.713	0.331	0.051	0.068	0.333
In.	0.10	0.12	0.12	0.18	1.38	1.27	0.40	0.82	0.37	0.06	0.09	0.37

Calendar year 1965: Max 1,720 Min 4.2 Mean 124 Cfsm 0.502 In. 6.81
 Water year 1965-66: Max 1,640 Min 1.5 Mean 96.0 Cfsm 0.389 In. 5.27

Peak discharge (base, 1,700 cfs).--No peak above base.

66-91

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JAMES RIVER BASIN

2-0350. James River at Cartersville, Va.

Location.--Lat 37°40'15", Long 78°05'10", on left bank 200 ft downstream from bridge on State Highway 45 between Pamerton and Cartersville, Cumberland County, 2 miles downstream from Wilks River, and at mile 152.4.

Drainage area.--6,242 sq. mi.

Records available.--October 1898 to September 1966. Monthly discharge only for some periods, published in WSP 1303.

Gage.--Digital water-stage recorder. Datum of gage is 161.57 ft above mean sea level (levels by Corps of Engineers). Prior to June 4, 1927, wire-weight or chain gage, and June 4, 1927, to June 10, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--68 years, 6,961 cfs.

Extremes.--Maximum discharge during year, 53,200 cfs Feb. 14 (gage height, 16.82 ft); minimum, 316 cfs Sept. 13, 14 (gage height, 0.02 ft); minimum daily, 330 cfs Sept. 14.

1898-1966: Maximum discharge, 180,000 cfs Sept. 20, 1944 (gage height, 29.6 ft, from floodmark in gage well); minimum, that of Sept. 13, 14, 1966; minimum daily, that of Sept. 14, 1966; minimum gage height, that of Sept. 13, 14, 1966.

Remarks.--Records good. Large diurnal fluctuation caused by powerplants above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	820	1,310	1,180	1,060	1,300	33,800	2,230	7,000	4,100	828	699	505
2	772	1,180	1,120	1,070	1,600	31,400	2,230	10,000	3,340	784	899	473
3	1,290	1,020	1,100	1,010	1,550	25,900	2,000	23,600	3,250	670	722	443
4	1,740	1,130	1,080	1,020	1,450	20,500	2,000	22,600	2,740	622	604	448
5	1,150	1,150	1,150	1,020	1,400	15,000	2,080	22,700	2,400	680	655	423
6	1,010	1,180	1,120	1,200	1,340	12,700	2,010	15,000	2,210	690	758	407
7	1,080	1,150	1,020	1,470	1,340	11,900	1,950	11,100	2,030	795	828	400
8	2,970	1,120	1,080	2,040	1,420	10,000	2,140	8,760	2,180	824	740	403
9	4,000	1,040	1,130	1,800	1,580	8,060	1,850	7,200	2,910	839	650	412
10	3,420	1,150	1,130	1,720	1,870	7,000	2,000	6,200	3,160	730	622	402
11	3,340	1,210	980	1,840	3,000	6,000	1,840	5,800	3,610	670	604	399
12	2,740	1,230	1,120	2,070	8,410	5,200	1,760	4,820	3,070	595	700	401
13	2,320	1,210	1,080	1,840	24,800	4,820	1,950	4,270	1,950	604	910	394
14	2,090	1,370	1,210	1,710	21,200	4,530	2,320	4,140	1,790	577	1,280	330
15	1,670	1,310	1,100	1,610	47,300	4,270	2,320	3,930	1,720	730	1,290	1,440
16	1,610	1,340	1,010	1,550	32,600	4,020	2,080	3,930	1,540	690	1,120	4,500
17	1,510	1,120	1,010	1,520	20,000	3,930	3,160	3,160	1,630	640	1,000	1,880
18	1,260	1,180	1,040	1,370	18,100	3,500	4,020	3,500	1,710	613	944	2,610
19	1,290	1,180	1,070	1,340	15,600	3,420	3,760	3,760	1,840	559	910	1,990
20	1,260	1,130	1,020	1,160	11,600	3,160	3,680	4,820	1,490	541	817	1,210
21	1,230	1,080	980	1,200	8,760	2,660	3,340	3,590	1,400	487	910	14,100
22	1,180	1,180	1,040	1,240	7,200	2,910	3,160	3,250	1,190	487	806	11,900
23	1,080	1,180	1,120	1,280	6,200	2,820	3,080	3,160	1,110	469	720	7,960
24	1,400	1,240	980	1,600	5,010	2,820	3,250	2,860	1,120	452	700	4,630
25	1,400	1,340	965	2,230	5,200	2,820	4,180	2,570	1,120	428	670	4,940
26	1,340	1,240	965	1,770	5,200	2,740	4,060	2,400	1,040	428	784	2,480
27	1,260	1,210	924	1,160	5,200	2,480	7,200	3,000	874	428	650	2,800
28	1,340	1,210	1,010	1,050	6,300	2,210	7,840	6,500	910	412	681	2,750
29	1,290	1,230	1,040	950	-----	2,320	7,000	6,200	773	412	604	3,820
30	1,390	1,040	965	1,000	-----	2,320	6,000	4,340	795	487	595	4,950
31	1,210	-----	950	1,100	-----	2,230	-----	4,340	-----	523	550	-----
TOTAL	53,042	35,660	32,689	44,010	296,530	246,840	100,490	220,180	59,002	18,744	24,404	84,948
MEAN	1,711	1,189	1,054	1,420	10,550	7,963	3,350	7,361	1,967	605	750	2,833
CFSM	.274	.191	.169	.228	1.70	1.28	.537	1.18	.315	.097	.147	.454
IN	.92	.21	.19	.26	1.77	1.47	.60	1.36	.35	.11	.13	.81

CALENDAR YEAR 1965 MAX 59,800 MIN 573 MEAN 4,893 CFSM .784 INCHES 10.44
WATER YEAR 1965-66 MAX 51,200 MIN 330 MEAN 3,355 CFSM .538 INCHES 7.30

Peak discharge (base, 40,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-14	1400	16.82	53,200	3-1	1530	14.32	41,500

66-92

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0365. Fine Creek at Pine Creek Mills, Va.

Location.--Lat 37°35'52", long 77°49'12", on right bank 75 ft downstream from bridge on State Highway 711, at Pine Creek Mills, Powhatan County, 0.8 mile upstream from mouth and 6.7 miles northeast of Powhatan.

Drainage area.--23 sq mi, approximately.

Records available.--July 1944 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 156.59 ft above mean sea level, datum of 1929. Prior to Oct. 28, 1953, chain gage or inclined staff gage and crest-stage indicator at same datum 75 ft upstream.

Average discharge.--22 years, 10.1 cfs.

Extremes.--Maximum discharge during year, 180 cfs Feb. 13 (gage height, 2.87 ft); minimum, 0.40 cfs Aug. 29 to Sept. 8; minimum gage height, 1.57 ft Sept. 6.
1944-66: Maximum discharge, 3,640 cfs Oct. 21, 1961 (gage height, 8.35 ft); minimum, 0.40 cfs Sept. 11, 1954, Aug. 29 to Sept. 8, 1955; minimum gage height, 1.56 ft Sept. 11, 1954.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	4.0	5.7	6.4	5.7	152	11	18	12	3.9	2.3	0.40
2	4.7	4.0	4.7	6.4	5.7	48	10	59	9.0	3.9	1.9	.60
3	4.0	4.0	5.1	6.4	6.0	26	9.5	43	8.0	3.9	2.1	.60
4	3.6	4.4	5.1	6.0	9.5	24	10	23	7.5	3.9	2.6	.60
5	3.3	4.0	5.1	6.4	9.5	22	9.5	17	7.0	3.9	3.3	.60
6	3.6	4.4	5.1	20	9.5	17	8.8	15	5.9	3.9	2.3	.60
7	14	4.7	4.7	11	10	15	8.8	14	5.5	3.9	2.1	.60
8	11	4.7	4.7	8.3	12	14	8.3	12	7.0	3.6	1.9	.60
9	4.7	4.7	4.7	6.8	17	12	8.5	10	8.0	3.6	1.9	.60
10	3.6	4.7	4.7	6.8	23	12	8.3	9.5	8.0	3.6	2.3	.80
11	3.3	5.5	4.7	6.8	85	12	8.3	8.8	8.0	3.3	2.1	.80
12	3.3	5.1	4.7	5.5	79	12	10	8.8	6.2	2.8	2.3	.80
13	3.3	5.3	6.4	5.5	162	12	19	8.8	5.9	3.0	1.9	1.2
14	3.3	5.5	6.8	5.4	113	12	15	18	5.2	2.8	1.9	2.6
15	3.3	5.1	6.0	5.3	32	12	12	12	4.9	3.9	1.9	2.6
16	3.3	5.5	6.0	5.2	46	12	11	10	4.9	3.6	1.7	1.9
17	3.1	5.5	6.0	5.2	33	11	9.5	9.5	15	3.0	1.6	1.7
18	3.3	5.1	5.5	5.0	22	11	9.5	9.5	11	3.0	1.4	1.7
19	3.3	5.1	6.0	5.0	19	11	8.8	11	9.0	2.8	1.4	2.1
20	3.3	5.1	5.3	5.0	15	12	8.8	9.5	6.2	2.6	1.3	5.5
21	3.3	5.1	6.0	5.0	14	11	8.3	8.3	5.2	2.3	1.3	.47
22	3.6	8.2	5.5	5.0	12	11	19	7.8	4.9	2.1	1.2	7.0
23	3.6	7.2	5.5	50	12	10	20	7.2	4.2	1.7	1.0	4.2
24	3.6	5.1	6.0	17	14	12	14	7.2	4.2	1.4	.80	3.0
25	3.6	5.1	6.8	8.0	26	14	14	11	4.0	1.8	.60	2.8
26	3.6	5.1	7.8	6.4	29	11	12	11	3.9	1.4	.60	2.8
27	3.6	5.1	6.0	6.0	19	11	30	11	3.9	1.3	.80	4.6
28	3.6	4.7	6.0	5.8	46	10	46	62	3.9	1.0	.60	4.9
29	3.6	4.7	5.5	5.6	-----	10	26	28	4.6	1.3	.40	11
30	3.6	4.7	6.0	5.6	-----	10	19	12	4.2	1.4	.60	7.0
31	4.0	-----	6.4	5.6	-----	11	-----	12	-----	3.9	.40	-----
Total	129.0	151.7	173.7	258.4	865.9	580	412.9	503.9	197.2	93.5	48.30	119.80
Mean	4.16	5.06	5.60	8.34	30.9	18.7	13.8	16.3	6.57	3.02	1.56	3.99
Cfsm	0.181	0.220	0.263	0.363	1.34	0.813	0.600	0.709	0.286	0.131	0.068	0.173
In.	0.21	0.25	0.28	0.42	1.40	0.94	0.67	0.82	0.32	0.15	0.08	0.19

Calendar year 1965: Max 135 Min 2.0 Mean 11.4 Cfsm 0.496 In. 6.75
Water year 1965-66: Max 152 Min 0.40 Mean 9.68 Cfsm 0.421 In. 5.73

Peak discharge (base, 200 cfs).--No peak above base.

66-93

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0370. James River & Kanawha Canal near Richmond, Va.

Location.--Lat 37°33'52", long 77°34'28", on left bank 75 ft downstream from canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Boshar Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond, Henrico County.

Records available.--September 1936 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 106.07 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

Average discharge.--30 years, 862 cfs.

Extremes.--Maximum discharge during year, 1,000 cfs Mar. 1 (gage height, 8.54 ft); slight leakage through gates when closed at times during year.

1936-66: Maximum gage height, 19.7 ft Sept. 20, 1944 (discharge not determined, flow of canal merges with James River); no flow at times when head gates were closed.

Remarks.--Records good. Canal diverts from James River 1,200 ft above Boshar Dam and discharges into river at several points below gaging station near Richmond. Figures given show flow in canal only; for record of flow of James River near Richmond, see page 95.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	717	731	745	731	717	940	805	900	852	717	584	560
2	717	731	745	745	731	900	805	900	836	717	572	512
3	703	731	745	745	730	940	805	920	820	717	649	435
4	731	717	745	745	730	920	790	940	805	703	649	435
5	760	694	745	731	730	884	790	920	805	662	649	466
6	731	287	745	745	717	900	790	920	790	662	649	444
7	731	745	745	745	717	900	790	920	790	689	649	422
8	745	731	731	760	760	884	790	900	790	689	675	400
9	820	731	745	775	775	884	790	900	805	689	662	390
10	836	731	745	760	790	884	775	884	820	689	649	390
11	805	745	745	760	820	884	790	884	820	689	649	390
12	805	745	745	775	900	868	775	884	820	675	636	380
13	790	745	745	775	900	868	790	868	805	662	649	360
14	775	745	745	760	940	836	805	868	760	636	675	439
15	775	745	745	760	940	836	805	852	760	662	717	512
16	775	745	745	760	900	836	805	852	760	662	717	634
17	760	745	745	760	900	836	805	836	703	689	717	790
18	745	731	745	745	920	766	852	836	324	689	717	775
19	745	745	745	745	920	428	852	836	790	662	703	805
20	745	745	745	745	900	836	852	868	775	636	703	790
21	745	731	745	745	900	820	852	852	760	572	703	868
22	745	731	745	745	884	820	836	836	745	548	703	920
23	731	731	745	760	900	870	836	820	745	500	689	900
24	731	745	745	760	884	816	836	805	745	644	689	920
25	745	745	745	760	900	659	836	805	731	488	675	884
26	745	745	731	775	900	85	900	805	731	477	662	852
27	745	745	731	731	900	320	920	717	731	455	675	820
28	745	745	731	731	900	305	900	63	717	466	662	820
29	745	745	745	731	-----	305	900	283	717	466	649	820
30	745	745	745	717	-----	884	900	717	536	623	623	852
31	745	-----	731	717	-----	805	-----	852	-----	636	560	-----
Total	23,378	21,673	23,025	23,239	23,605	25,36	24,761	25,426	22,769	19,184	20,560	19,025
Mean	754	722	743	750	763	824	825	820	759	619	663	634

Calendar year 1965: Max 940 Min 67 Mean 793
 Water year 1965-66: Max 940 Min 63 Mean 746

66-94

REPRODUCTION OF THE
 ORIGINAL TABLE IS POOR

JAMES RIVER BASIN

2-0375. James River near Richmond, Va.

Location.--Lat 37°13'47", long 77°32'50", on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 0.5 mile west of city limits of Richmond, Henrico County, 1.7 miles downstream from Busher Dam, 3.3 miles upstream from Powhite Creek, and at mile 112.7.

Drainage area.--6,757 sq mi.

Records available.--October 1934 to September 1966. Gage-height records collected in vicinity of Mayo's Bridge, at mile 104.6, 1876-1936, and at mile 103.7, since 1957, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Control is Williams Island Dam which diverts flow for City of Richmond water supply. Datum of gage is 98.62 ft above mean sea level, datum of 1929.

Average discharge.--32 years, 7,233 cfs (includes flow in James River & Kanawha Canal).

Extremes.--Maximum discharge during year, 55,200 cfs Feb. 15 (gage height, 13.75 ft); minimum daily, about 10 cfs Sept. 8-15. 1934-66: Maximum discharge, 175,000 cfs Mar. 19, 1936 (gage height, 23.42 ft); minimum daily, that of Sept. 8-15, 1966; minimum daily discharge of James River and James River & Kanawha Canal combined, 370 cfs Sept. 13, 1966. Probable minimum daily discharge, since 1899, of James River and James River & Kanawha Canal combined, about 350 cfs in October 1930. (Minimum daily of record for James River at Cartersville, 330 cfs Sept. 14, 1966.)

Remarks.--Records good. City of Richmond takes from 60 to 90 cfs for water supply from river below gage except during periods of low flow when supply is obtained from James River & Kanawha Canal. Flow regulated by powerplants above station. Extremes and records of daily discharge include diversion by City of Richmond, but do not include flow in James River & Kanawha Canal which diverts around station. For canal records, see page 96.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	167	510	415	380	180	23,100	1,740	5,700	3,580	122	20	20
2	154	550	510	450	140	16,300	1,740	7,150	3,320	180	20	20
3	95	450	510	490	180	27,200	1,670	15,900	2,600	167	328	20
4	475	362	470	432	280	22,000	1,460	29,700	2,310	77	194	20
5	890	432	450	432	380	15,900	1,490	27,200	1,970	20	122	20
6	432	940	490	590	470	13,100	1,560	16,900	1,670	50	50	20
7	380	450	470	710	630	11,300	1,460	11,800	1,560	113	104	20
8	650	380	380	950	730	10,100	1,440	9,110	1,560	122	180	20
9	3,320	415	432	1,460	930	8,380	1,580	7,150	1,830	234	131	10
10	3,820	398	530	1,140	1,200	6,810	1,330	6,000	2,650	248	45	10
11	2,380	530	470	1,100	2,400	6,900	1,460	5,260	2,700	131	20	10
12	2,350	590	398	1,280	5,250	5,120	1,330	4,710	1,020	104	20	10
13	1,670	590	398	1,460	16,900	4,580	1,350	4,080	2,260	30	20	10
14	1,420	570	510	1,210	44,800	4,320	1,650	3,700	1,330	20	154	10
15	1,210	710	610	1,100	52,600	4,080	1,880	3,700	1,140	68	670	10
16	1,030	670	530	1,010	41,700	3,700	1,830	3,450	1,100	180	590	1,850
17	810	650	432	950	23,100	3,700	1,560	3,150	1,230	131	450	3,080
18	570	450	415	890	17,900	3,200	3,100	2,820	1,880	95	380	1,120
19	530	530	450	750	16,900	3,580	3,320	2,950	1,280	28	248	2,080
20	530	510	490	710	12,600	2,880	3,180	3,820	1,330	20	208	1,830
21	550	490	415	610	9,320	2,600	3,020	3,700	930	20	140	8,690
22	490	510	398	650	7,490	2,280	2,800	2,900	770	20	208	15,400
23	450	530	450	1,010	6,320	2,400	2,800	2,620	590	20	122	9,110
24	345	550	490	1,010	4,980	2,400	2,820	2,280	530	20	40	6,980
25	630	670	450	1,230	4,840	2,550	2,700	2,070	490	20	20	5,260
26	670	690	398	1,830	4,980	2,920	5,260	1,970	490	20	20	3,920
27	590	610	380	752	5,120	2,160	7,150	2,210	450	20	20	2,850
28	530	530	362	490	5,280	1,970	6,980	4,420	248	20	35	2,520
29	590	550	415	130	-----	1,670	7,320	7,840	262	20	20	2,700
30	550	550	450	280	-----	1,790	6,000	5,120	194	20	20	4,080
31	610	-----	380	210	-----	1,830	-----	1,320	-----	20	20	-----
Total	28,889	16,327	13,948	25,936	287,500	239,920	82,980	212,720	45,074	2,380	4,619	71,750
Mean	932	544	450	837	10,271	7,739	2,766	6,862	1,502	76.1	149	2,392
(#)	754	722	747	750	863	824	825	820	759	619	663	634
Mean#	1,686	1,266	1,191	1,587	11,114	8,563	3,591	7,682	2,261	695	812	3,026
Cfs#	0.250	0.187	0.177	0.235	1.64	1.27	0.531	1.14	0.335	0.103	0.120	0.448
In.#	0.29	0.21	0.20	0.27	1.71	1.46	0.59	1.31	0.37	0.12	0.14	0.50

Calendar year 1965: Max 66,000 Min 20 Mean 4,318 Mean# 5,111 Cfs# 0.756 In.# 10.28
 Water year 1965-66: Max 52,000 Min 10 Mean 2,828 Mean# 3,574 Cfs# 0.529 In.# 7.17

Peak discharge (base 50,000 cfs)--Feb. 15 (0300) 55,200 cfs (13.75 ft).

Diversion, in cubic feet per second, by James River & Kanawha Canal.
 # Adjusted for diversion.

JAMES RIVER BASIN

2-0380. Felling Creek near Chesterfield, Va.

Location.--Lat 37°26'37", long 77°31'21", on left bank at upstream side of bridge on State Highway 651, 0.8 mile downstream from Licking Creek, 2.8 miles upstream from Fucoshock Creek, and 6.7 miles northwest of Chesterfield, Chesterfield County.

Drainage area.--32.8 sq mi.

Records available.--October 1955 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 126.39 ft above mean sea level, datum of 1929.

Average discharge.--11 years, 33.3 cfs.

Extremes.--Maximum discharge during year, 214 cfs Feb. 28 (gage height, 5.47 ft); minimum, 1.1 cfs Sept. 12 (gage height, 1.72 ft). 1955-66: Maximum discharge, 2,510 cfs Sept. 12, 1960 (gage height, 12.67 ft); minimum, 0.8 cfs Sept. 11, 13, 1963; minimum gage height, that of Sept. 12, 1966.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	2.9	2.1	3.1	7.2	169	16	27	10	3.2	5.7	1.8
2	4.4	2.8	2.2	3.1	7.4	84	14	55	8.9	3.2	4.6	1.7
3	2.9	2.8	2.4	3.1	8.0	54	12	23	7.5	3.1	4.0	1.5
4	2.5	2.8	2.5	3.1	7.5	55	23	46	6.5	2.8	6.3	1.4
5	2.4	2.6	2.5	3.1	6.8	54	13	32	5.5	3.0	12	1.4
6	2.4	2.5	2.5	9.0	6.3	41	12	27	4.9	4.0	7.1	1.4
7	7.0	2.6	2.6	8.1	6.0	30	11	22	6.6	3.2	5.7	1.2
8	5.3	2.6	2.8	6.2	7.0	25	10	19	5.2	2.8	5.0	1.2
9	3.6	2.5	2.8	4.2	9.2	23	10	17	9.4	2.5	4.4	1.2
10	3.1	2.6	2.8	3.7	24	22	9.8	15	9.8	2.4	4.0	1.2
11	3.0	2.6	2.8	3.6	83	21	9.6	13	26	2.2	3.5	1.2
12	3.0	2.6	3.0	3.1	74	20	9.8	12	15	2.1	3.2	1.2
13	3.0	2.9	3.2	3.0	176	19	18	12	8.9	2.0	3.2	1.2
14	3.1	2.8	3.5	3.1	134	18	20	15	7.1	2.0	3.2	1.5
15	3.1	2.6	3.3	3.1	55	18	17	14	5.7	3.6	3.1	1.5
16	3.0	2.8	3.5	3.4	19	17	14	12	5.0	3.1	3.0	1.3
17	3.0	2.9	3.4	3.5	64	16	12	10	10	2.5	2.9	1.2
18	2.9	2.5	3.1	3.6	37	15	12	9.4	14	2.3	2.8	1.2
19	2.9	2.5	3.0	3.3	27	15	11	9.8	16	2.1	2.6	1.4
20	2.8	2.9	3.0	3.0	21	15	10	9.2	11	2.0	2.4	6.3
21	2.8	2.5	2.9	3.0	17	13	10	8.1	7.3	1.9	2.3	31
22	2.8	2.9	2.9	4.0	15	13	11	7.1	5.7	1.9	2.2	26
23	3.1	2.8	2.8	36	14	12	13	6.4	4.7	1.8	2.2	11
24	3.1	2.4	2.8	22	24	23	12	5.8	4.3	1.8	4.6	6.0
25	3.0	2.2	3.0	12	49	28	11	6.0	3.9	1.7	3.1	4.2
26	2.9	2.1	3.5	9.4	37	23	12	6.5	3.6	1.7	2.6	3.5
27	3.0	2.3	3.0	8.6	25	19	29	37	3.5	1.5	2.1	4.4
28	3.0	2.2	2.8	8.2	66	16	47	54	3.4	1.4	1.9	4.2
29	2.9	2.0	2.6	7.6	-----	15	40	28	3.7	1.7	1.8	5.0
30	2.8	2.0	2.8	7.4	-----	15	31	16	3.4	21	1.8	4.6
31	2.9	-----	2.9	7.3	-----	16	-----	11	-----	13	1.8	-----
Total	99.3	77.2	89.2	204.9	1,066.4	924	470.2	635.3	234.5	103.5	118.1	132.1
Mean	3.20	2.57	2.88	6.61	38.1	29.8	15.7	20.5	7.82	3.34	3.81	4.40
Cfsm	0.098	0.078	0.088	0.202	1.16	0.909	0.479	0.625	0.238	0.102	0.116	0.134
In.	0.11	0.09	0.10	0.23	1.21	1.05	0.53	0.72	0.27	0.12	0.13	0.13

Calendar year 1965: Max 268

Min 1.4

Mean 17.6

Cfsm 0.537

In. 7.30

Water year 1965-66: Max 176

Min 1.2

Mean 11.4

Cfsm 0.348

In. 4.71

Peak discharge (base, 350 cfs).--No peak above base.

66-96

REPRODUCED FROM THE
ORIGINAL FILE IS POOR

JAMES RIVER BASIN

2-0388.5 Holiday Creek near Andersonville, Va.

Location.--Lat 37°24'55", long 78°38'10", on right bank 350 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville, Buckingham County.

Drainage area.--8.53 sq mi.

Records available.--April to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 475 ft (from topographic map).

Extremes.--Maximum discharge during period, 182 cfs Sept. 21 (gage height, 2.73 ft); minimum, 0.10 cfs Sept. 11, 12; minimum gage height, 0.75 ft July 28.

Remarks.--Records good.

Discharge, in cubic feet per second, April to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1							-	4.2	2.8	0.90	0.80	0.30
2							-	2.1	2.4	.80	.80	.30
3							-	1.1	2.2	.70	.70	.30
4							-	4.1	2.0	.70	2.1	.30
5							-	4.9	1.8	.70	2.4	.30
6							-					
7							-	4.3	1.7	.70	1.0	.20
8							-	3.7	1.7	.60	.90	.20
9							-	3.5	1.7	.60	.90	.20
10							-	3.2	1.5	.50	1.1	.20
11							-	2.9	1.5	.50	1.3	.20
12							-	2.9	2.1	.50	1.2	.20
13							-	2.9	1.5	.40	4.6	.20
14							-	2.9	1.4	.40	1.4	.20
15							-	3.8	1.4	.40	1.2	0.0
16							-	3.2	1.3	.60	1.2	1.3
17							-	2.8	1.2	.70	1.0	.70
18							-	2.6	2.3	.60	.80	.50
19							-	2.5	2.4	.50	.70	.50
20							-	3.8	2.2	.40	.70	3.4
21							-	3.6	1.6	.40	.70	4.8
22							-	2.8	1.4	.30	.70	3.9
23							-	2.5	1.3	.30	.70	3.2
24							-	2.3	1.2	.30	.60	2.7
25							-	4.3	1.2	.30	.60	1.8
26							-	4.5	1.1	.20	.50	1.4
27							-	3.6	1.1	.20	.60	1.4
28							-	5.6	2.9	1.0	.20	4.0
29							-	7.0	4.2	1.0	.20	3.2
30							-	4.8	2.9	1.0	.20	3.2
31							-	4.2	2.4	.90	3.7	2.7
							-	3.6	-----	1.5	.40	-----
TOTAL							-	133.6	48.90	19.00	31.10	142.50
MEAN							-	4.32	1.63	.61	1.00	4.74
CFSM							-	.506	.171	.072	.117	.232
IN							-	.58	.21	.08	.14	.26

Calendar year 1965: Max - Min - Mean - CFSM - In. -
 Water year 1965-66: Max - Min - Mean - CFSM - In. -

Peak discharge (base, 150 cfs).--Sept. 21 (0315) 182 cfs (2.73 ft).

66-97

JAMES RIVER BASIN

2-0390. Buffalo Creek near Hampden Sydney, Va.

Location (revised).--Lat 37°15'25", long 78°29'10", on left bank 100 ft above bridge on State Highway 658, 0.8 mile upstream from Locket Creek, 2.6 miles northwest of Hampden Sydney, Prince Edward County, and 5.2 miles southwest of Farmville.

Drainage area.--70 sq mi, approximately.

Records available.--August 1946 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 119.19 ft above mean sea level, datum of 1929 (levels by Virginia Department of Highways). Prior to Aug. 19, 1953, staff gage at same site and datum.

Average discharge.--20 years, 62.4 cfs.

Extremes.--Maximum discharge during year, 772 cfs Mar. 1 (gage height, 6.37 ft); minimum, 5.0 cfs July 27-30 (gage height, 0.83 ft). 1946-66: Maximum discharge, 6,440 cfs Aug. 18, 1955 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs by log-arithmetic plotting; minimum, that of July 27-30, 1966. Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	15	19	19	30	595	31	40	32	16	45	8.2
2	22	15	18	20	30	255	30	130	28	14	24	7.9
3	23	15	19	20	32	111	30	148	26	13	25	7.6
4	20	17	20	21	32	98	30	76	24	12	30	7.6
5	17	17	19	21	33	138	30	53	22	11	55	7.4
6	15	17	18	35	33	120	29	43	21	12	34	6.9
7	30	17	17	33	34	77	29	40	20	11	22	6.4
8	48	17	17	25	35	62	29	36	20	10	20	6.1
9	32	17	20	22	36	55	29	32	20	9.2	18	6.1
10	24	17	19	21	60	51	29	30	90	8.7	17	6.1
11	22	23	19	20	190	48	29	28	180	8.6	16	6.1
12	20	25	19	20	213	44	30	28	71	8.6	15	6.1
13	18	25	20	20	294	42	38	28	38	8.2	14	5.9
14	16	25	21	20	504	44	40	28	30	7.6	14	9.8
15	15	23	20	20	191	45	36	28	24	11	21	14
16	15	21	19	20	169	43	34	27	22	9.8	26	13
17	14	21	19	19	175	40	32	25	22	8.4	20	9.5
18	14	20	19	19	98	38	30	24	23	7.9	17	8.7
19	14	20	18	19	72	37	29	32	23	7.4	15	10
20	14	19	18	18	59	36	29	35	22	7.1	14	54
21	14	19	18	18	50	35	28	28	20	6.6	13	185
22	15	25	18	23	46	34	28	24	18	6.4	14	126
23	16	26	17	35	62	34	29	22	17	6.1	14	55
24	15	24	17	45	44	38	28	21	16	5.9	13	31
25	14	23	19	40	54	41	28	24	16	5.7	11	24
26	14	21	21	35	70	37	28	30	14	5.4	11	22
27	14	21	19	33	58	34	32	35	14	5.2	10	28
28	15	21	18	32	159	33	40	46	14	5.0	9.5	35
29	15	20	18	31	---	32	40	42	16	5.0	8.9	30
30	14	19	18	30	---	32	36	30	16	115	8.4	33
31	14	---	18	30	---	32	---	30	---	112	8.4	---
Total	572	605	579	784	2,843	2,361	940	1,243	921	479.4	583.2	776.4
Mean	18.5	20.2	18.7	25.3	102	76.2	31.3	40.1	30.7	15.5	18.8	25.9
Cfs	0.264	0.289	0.267	0.361	1.46	1.09	0.447	0.573	0.439	0.221	0.289	0.370
In.	0.30	0.12	0.31	0.42	1.52	1.26	0.50	0.66	0.49	0.25	0.31	0.41

Calendar year 1965: Max 618 Min 9.8 Mean 41.2 Cfs 0.589 In. 7.99

Water year 1965-66: Max 595 Min 5.0 Mean 34.8 Cfs 0.497 In. 6.75

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-14	0900	6.02	603	3-1	1200	6.37	772

66-98

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0395. Appomattox River at Farmville, Va.

Location.--Lat 37°18'25", long 78°23'20", on left bank 4 ft downstream from bridge on State Highway 45 at north town limits of Farmville, Prince Edward County, and 1.1 miles downstream from Buffalo Creek.

Drainage area.--355 sq mi.

Records available.--March 1926 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 281.93 ft above mean sea level, datum of 1929. Prior to Nov. 29, 1928, chain gage, and Nov. 29, 1928, to May 4, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--40 years, 275 cfs.

Extremes.--Maximum discharge during year, 3,120 cfs Mar. 1 (gage height, 15.22 ft); minimum, 17 cfs July 29 (gage height, 3.35 ft). 1926-66: Maximum discharge, 21,000 cfs Aug. 15, 1940 (gage height, 23.60 ft), from rating curve extended above 12,000 cfs by logarithmic plotting; minimum, 3.8 cfs Sept. 25, 1941; minimum daily, 9 cfs Sept. 20, 1932.

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are fair. Diurnal fluctuation at low flow caused by Prince Edward Mill, 0.2 mile upstream.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	58	58	60	68	75	2,600	113	130	117	51	145	31
2	172	58	55	68	78	1,810	111	308	101	42	71	30
3	98	59	63	66	82	555	107	582	88	39	93	29
4	58	59	60	66	84	378	101	338	42	36	95	29
5	50	60	60	70	84	443	98	212	75	36	205	26
6	83	61	59	100	84	414	96	169	68	37	146	27
7	100	61	58	140	86	299	93	159	53	35	84	25
8	282	62	58	130	100	238	92	146	61	34	67	24
9	164	62	58	120	130	207	93	123	59	32	61	22
10	95	63	58	115	220	193	91	113	143	30	263	21
11	76	67	58	114	647	199	89	105	315	29	101	20
12	58	72	58	98	861	198	93	102	239	28	69	40
13	54	77	60	92	1,470	190	118	103	115	27	63	20
14	52	74	62	88	2,640	190	138	103	88	27	61	33
15	51	72	66	86	1,200	186	121	106	75	29	60	122
16	51	69	66	86	644	177	109	97	63	31	64	62
17	50	67	64	86	653	158	108	87	65	28	57	39
18	50	66	64	86	409	145	97	83	73	27	50	33
19	51	65	64	90	283	144	91	112	60	26	45	37
20	53	61	64	92	225	144	86	115	68	25	43	394
21	55	62	62	90	189	138	84	96	58	24	44	237
22	56	70	62	90	169	126	86	85	52	24	44	553
23	58	79	62	135	155	121	90	77	49	23	42	224
24	59	81	62	202	158	128	88	73	46	22	39	126
25	58	71	62	152	194	141	91	87	43	21	37	89
26	57	67	64	90	262	129	100	116	41	20	35	74
27	57	68	64	76	237	121	131	124	40	19	35	61
28	58	68	64	74	613	118	123	379	41	18	34	99
29	58	65	64	72	---	113	176	179	57	19	33	136
30	57	62	64	70	---	112	139	114	56	134	34	167
31	58	---	64	72	---	116	---	111	---	282	32	---
TOTAL	2,277	1,986	1,909	2,984	12,031	10,231	3,223	4,741	2,521	1,255	2,266	3,423
MEAN	73.5	64.2	61.6	96.3	430	330	107	153	84.0	40.3	72.5	114
CFSM	.240	.216	.201	.315	1.41	1.08	.390	.500	.275	.132	.237	.373
IN	.28	.24	.23	.36	1.46	1.24	.39	.58	.31	.15	.27	.42

CALENDAR YEAR 1965 MAX 2,300 MIN 22 MEAN 154 CFSM .503 INCHES 6.82
WATER YEAR 1965-66 MAX 2,640 MIN 18 MEAN 134 CFSM .438 INCHES 5.94

Peak discharge (base, 3,500 cfs).--No peak above base.

Note.--Doubtful or no gage-height record Dec. 7 to Jan. 10, June 25 to July 30.

66-99

REPRODUCIBILITY OF THIS
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0400. Appomattox River at Mattox, Va.

Location.--Lat 37°25'17", long 77°51'33", on right bank 75 ft upstream from Southern Railway bridge at Mattox, Amelia County, 0.3 mile upstream from Skinquarter Creek, and 3.7 miles upstream from Flat Creek.

Drainage area.--729 sq mi.

Records available.--August 1900 to December 1905, March 1926 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. August 1900 to December 1905, chain gage at same site, different datum. March 1926 to October 1936, chain gage at same site and datum.

Average discharge.--45 years, 694 cfs.

Extremes.--Maximum discharge during year, 3,880 cfs Mar. 5 (gage height, 18.13 ft); minimum, 18 cfs July 27, 28 (gage height, 4.90 ft). 1900-05, 1926-66: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	102	124	118	235	2,960	270	420	236	110	870	37
2	89	98	134	134	235	3,300	260	574	229	100	120	37
3	200	103	134	129	230	3,530	245	1,610	208	94	188	37
4	195	104	137	129	245	3,760	230	1,930	188	80	138	34
5	136	104	128	129	260	2,350	230	1,070	168	70	181	28
6	109	104	122	155	280	1,150	230	678	154	65	349	31
7	118	105	120	202	320	1,010	222	509	139	64	304	28
8	418	108	116	250	160	786	222	420	139	64	202	26
9	652	106	117	229	400	652	215	348	152	59	132	27
10	384	106	115	195	640	574	210	324	181	54	132	26
11	222	114	119	181	1,430	535	205	294	414	51	181	24
12	162	116	116	174	2,310	496	205	276	982	45	236	23
13	132	125	119	168	3,150	680	235	258	587	42	145	26
14	119	132	128	165	3,400	450	300	258	294	37	109	32
15	108	133	132	160	3,500	430	324	258	208	41	174	34
16	102	130	132	158	3,690	410	294	250	168	47	124	31
17	98	126	126	156	3,760	390	266	243	188	49	103	111
18	94	120	122	156	3,320	360	250	229	229	42	96	70
19	92	119	126	154	1,180	340	243	222	243	38	79	52
20	92	119	121	152	870	330	229	250	215	34	69	92
21	92	117	119	150	678	320	222	266	188	30	90	959
22	94	121	119	195	600	300	215	229	162	28	86	1,510
23	94	132	119	280	522	290	222	202	137	26	174	1,000
24	97	138	119	470	496	300	222	188	121	24	92	445
25	100	139	121	450	574	330	222	181	114	23	66	266
26	99	138	121	375	758	320	222	188	102	21	54	195
27	98	132	126	260	870	290	276	208	92	19	52	168
28	97	122	125	245	954	280	470	333	85	18	49	155
29	96	122	124	245	-----	270	652	626	84	22	47	202
30	100	122	119	240	-----	260	574	396	104	42	43	222
31	100	-----	126	235	-----	570	-----	276	-----	312	41	-----
Total	4,688	3,557	3,826	6,409	34,467	27,523	8,182	13,454	6,511	1,751	4,930	5,928
Mean	151	119	123	207	1,231	888	273	434	217	56.5	159	198
Cfm	0.207	0.163	0.169	0.284	1.69	1.22	0.374	0.595	0.298	0.078	0.218	0.272
In.	0.24	0.18	0.19	0.33	1.76	1.41	0.42	0.69	0.33	0.09	0.23	0.30

Calendar year 1965: Max 3,340 Min 53 Mean 392 Cfm 0.538 In. 7.27
 Water year 1965-66: Max 3,760 Min 18 Mean 332 Cfm 0.455 In. 6.19

Peak discharge (base, 4,000 cfs).--No peak above base.

66-100

REPRODUCIBILITY OF THE
 ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0410. Deep Creek near Mannboro, Va.

Location.--Lat 37°16'59", long 77°52'22", on left bank 300 ft upstream from bridge on State Highway 153, 0.9 mile upstream from Sweethouse Creek, 3.4 miles northwest of Mannboro, Amelia County, and 7.5 miles southeast of Amelia.

Drainage area.--156 sq mi.

Records available.--September 1946 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 2, 1949, steel gage at same site and datum.

Average discharge.--20 years, 136 cfs.

Extremes.--Maximum discharge during year, 2,760 cfs June 17 (gage height, 9.20 ft); minimum, 1.6 cfs Sept. 12, 13 (gage height, 0.43 ft).

1946-66: Maximum discharge, 7,140 cfs Sept. 25, 1947 (gage height, 13.1 ft, from floodmarks); minimum that of Sept. 12, 13, 1966; minimum gage height, 0.29 ft Aug. 9-12, 1957.

Flood in August 1960 reached a stage of 14.8 ft (discharge, 10,000 cfs, from rating curve extended above 3,800 cfs by logarithmic plotting), from information by local resident.

Remarks.--Records good except those for period of no gage-height record, which are fair.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	20	24	32	48	1,360	55	86	35	30	157	5.0
2	20	22	22	33	48	1,540	53	184	34	24	52	4.5
3	22	22	24	32	47	372	50	499	30	20	29	4.0
4	18	24	26	31	47	212	50	443	28	17	28	3.5
5	17	20	29	30	49	250	52	170	25	14	110	3.0
6	16	19	27	55	52	188	50	118	23	13	70	2.8
7	23	20	24	82	60	136	48	90	21	11	45	2.4
8	128	24	23	63	85	109	46	75	20	10	30	2.0
9	90	22	24	43	130	97	46	65	30	9.0	25	1.9
10	45	22	24	35	180	90	46	58	37	7.0	23	1.8
11	30	24	25	32	350	86	45	51	83	8.0	45	1.7
12	25	26	26	28	638	82	45	49	78	5.3	35	1.6
13	20	28	28	29	695	77	66	49	42	5.2	23	1.6
14	19	32	32	30	928	88	85	49	31	5.0	20	1.8
15	18	30	33	28	597	91	72	68	28	7.0	25	3.2
16	18	27	31	29	271	84	60	47	23	13	22	5.8
17	18	28	29	35	390	74	55	43	992	11	19	1.4
18	18	26	27	33	308	67	51	40	1,910	9.8	16	2.8
19	18	24	26	30	172	65	49	39	591	11	14	3.0
20	18	24	25	27	126	64	48	39	166	7.8	12	4.2
21	18	24	24	27	100	61	46	36	93	5.5	15	152
22	18	28	25	28	88	58	46	33	64	3.9	13	430
23	17	34	24	100	81	57	37	32	50	3.4	35	184
24	18	38	24	150	90	72	53	29	43	3.0	20	53
25	17	52	28	140	178	131	50	30	37	2.4	11	31
26	17	28	29	70	188	93	56	36	30	3.0	9.0	22
27	18	28	28	55	141	75	80	50	27	2.0	8.0	24
28	18	30	26	50	208	69	156	97	23	2.0	7.0	32
29	18	28	24	50	---	60	141	90	29	2.0	6.5	34
30	18	26	28	49	---	57	104	57	36	53	6.0	30
31	19	---	32	49	---	57	---	40	---	231	5.5	---
Total	795	780	819	1,505	6,295	5,822	1,861	2,772	4,659	546.7	916.0	1,189.8
Mean	25.6	26.0	26.4	48.5	225	188	62.0	89.4	155	17.6	30.2	39.7
Cfsm	0.184	0.167	0.169	0.311	1.44	1.21	0.397	0.573	0.994	0.113	0.194	0.254
In.	0.19	0.19	0.19	0.36	1.50	1.40	0.44	0.66	1.11	0.13	0.22	0.28

Calendar year 1965: Max 1,680 Min 5.6 Mean 86.8 Cfsm 0.556 In. 7.55
 Water year 1965-66: Max 1,910 Min 1.6 Mean 76.7 Cfsm 0.492 In. 6.67

Peak discharge (base, 1,200 cfs)

Note.--No gage-height record Aug. 5 to Sept. 7.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-1	2230	8.88	2,520	6-17	2400	9.20	2,760

66-101

REPRODUCIBILITY OF
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0425. Chickahominy River near Providence Forge, Va.

Location.--Lat 37°26'10", long 77°03'40", on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, New Kent County, and 1.7 miles downstream from Schminoz Creek.

Drainage area.--249 sq mi.

Records available.--January 1942 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--24 years, 263 cfs.

Extremes.--Maximum discharge during year, 670 cfs Feb. 18 (gage height, 7.77 ft); minimum, 5.6 cfs Aug. 23; minimum gage height, 1.57 ft July 28.

1942-66: Maximum discharge, 7,710 cfs Aug. 15, 1955 (gage height, 11.67 ft); minimum, 3.4 cfs Aug. 1, 1954; minimum gage height, 1.53 ft Sept. 13, 1965.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	8.7	25	54	62	310	106	251	122	35	65	11
2	19	8.4	26	32	64	346	97	271	126	40	66	16
3	18	9.4	26	34	68	396	90	370	100	32	64	23
4	17	9.0	25	57	72	438	85	424	65	22	67	27
5	16	9.6	23	55	80	484	83	476	48	30	103	30
6	13	10	22	80	90	560	80	370	38	238	89	18
7	14	11	22	96	100	560	75	298	32	134	87	7.4
8	18	12	22	104	112	502	70	298	39	48	73	12
9	25	12	22	111	126	410	68	292	75	30	58	16
10	32	11	21	108	146	310	65	251	71	21	37	19
11	38	12	22	105	201	246	62	171	94	17	25	21
12	41	12	23	79	276	191	61	112	97	13	19	22
13	31	14	25	60	370	156	69	85	103	12	16	22
14	21	15	29	49	452	136	78	75	114	10	14	20
15	16	16	31	45	468	126	89	73	115	14	13	16
16	14	19	34	43	540	122	98	70	81	23	13	16
17	11	20	38	42	610	114	112	70	68	36	12	24
18	10	21	28	40	670	108	131	77	66	42	11	22
19	11	19	26	40	640	104	131	82	77	46	9.6	19
20	10	19	25	40	585	99	110	76	85	34	8.6	32
21	9.0	20	25	40	484	94	89	65	100	21	7.6	63
22	7.2	25	25	40	410	90	78	56	115	15	6.6	88
23	9.0	28	27	40	346	89	93	49	100	13	6.0	122
24	8.2	27	26	45	281	86	117	43	66	11	6.8	156
25	9.0	28	26	70	271	93	136	39	39	9.8	7.0	151
26	7.4	27	37	60	241	99	141	38	28	8.8	7.0	146
27	8.6	27	39	50	241	107	171	44	22	8.2	6.8	184
28	8.4	26	38	54	251	109	256	141	18	8.0	6.2	236
29	7.6	25	38	56	126	126	276	141	21	8.4	6.4	241
30	8.0	24	34	58	131	131	271	122	25	33	10	144
31	9.8	37	60	60	122	122	117	117	73	13	13	144
Total	491.2	524.6	867	1,887	8,257	6,864	3,388	4,995	2,150	1,086.2	937.6	1,928.4
Mean	15.8	17.5	28.0	60.9	295	221	113	161	71.7	35.0	30.2	64.3
Cfs	0.063	0.070	0.112	0.245	1.18	0.888	0.454	0.667	0.288	0.141	0.121	0.258
In.	0.07	0.08	0.13	0.28	1.23	1.03	0.51	0.75	0.32	0.16	0.14	0.29
Calendar year 1965:	Max 780	Min 7.0	Mean 168	Cfsm 0.594	In. 8.07							
Water year 1965-66:	Max 670	Min 6.0	Mean 91.4	Cfsm 0.367	In. 4.99							

66-103

DISMAL SWAMP BASIN

2-0430, Lake Drummond in Dismal Swamp, Va.

Location.--Lat 36°35'40", long 76°26'20", on left bank in outlet canal, in Chesapeake, 200 ft upstream from dam and gates, 0.3 mile downstream from Lake Drummond, 2.5 miles east of Nansemond County line, 3.1 miles north of North Carolina State line, and 2.9 miles southwest of Norfolk.

Records available.--May 1926 to September 1966.

Gage.--Staff gage read twice daily. Datum of gage is 12.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum gage height during year, 5.52 ft June 17; minimum, 2.08 ft Dec. 29.
1926-66: Maximum gage height, 6.68 ft Sept. 17, 1960; minimum, -0.67 ft Nov. 3, 1952.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.96	3.27	2.60	2.10	2.64	5.06	5.08	5.17	5.14	5.10	4.42	5.08
2	3.88	3.22	2.57	2.10	2.70	4.99	5.11	5.20	5.09	5.12	4.38	5.17
3	3.90	3.19	2.56	2.12	2.73	5.14	5.16	5.13	5.20	5.09	4.38	5.22
4	3.83	3.18	2.52	2.10	2.75	5.20	5.19	5.19	5.17	5.06	4.49	5.22
5	3.79	3.13	2.50	2.12	2.74	5.00	5.20	5.11	5.09	5.10	4.73	5.24
6	3.75	3.11	2.51	2.21	2.76	4.95	5.08	5.14	5.11	5.08	4.82	5.22
7	3.78	3.07	2.50	2.22	2.76	4.95	5.14	5.17	5.13	5.08	4.91	5.22
8	3.86	3.03	2.47	2.31	2.76	5.11	5.18	5.15	5.13	5.08	5.01	5.14
9	3.87	2.98	2.41	2.40	2.75	5.16	5.27	5.15	5.13	5.08	5.20	5.13
10	3.87	2.95	2.38	2.30	2.82	5.12	5.26	5.14	5.11	5.06	5.10	5.18
11	3.81	2.92	2.35	2.20	2.87	5.09	5.21	5.06	5.17	5.05	5.11	5.15
12	3.79	2.94	2.27	2.20	2.98	5.10	5.18	5.09	5.15	4.89	5.18	5.15
13	3.82	2.95	2.34	2.19	3.13	5.09	5.14	5.10	5.15	4.60	5.17	5.14
14	3.72	2.93	2.36	2.19	3.23	5.10	5.22	5.15	5.16	4.92	5.07	5.03
15	3.66	2.87	2.37	2.25	3.31	5.05	5.28	5.14	5.14	4.93	5.00	5.11
16	3.65	2.85	2.37	2.32	3.46	5.04	5.19	5.15	5.10	4.88	4.95	5.11
17	3.67	2.85	2.36	2.25	3.62	5.13	5.11	5.13	5.36	4.83	4.92	5.08
18	3.60	2.80	2.33	2.25	3.71	5.16	5.09	5.15	5.06	4.79	5.05	5.10
19	3.62	2.80	2.31	2.24	3.91	5.10	5.13	5.21	5.00	4.73	5.09	5.13
20	3.59	2.79	2.30	2.24	3.95	5.11	5.13	5.12	5.00	4.69	5.04	5.19
21	3.59	2.77	2.29	2.24	4.14	5.14	5.14	5.14	5.08	4.67	5.09	5.19
22	3.57	2.81	2.27	2.26	4.26	5.11	5.16	5.11	5.17	4.64	5.12	5.12
23	3.53	2.78	2.23	2.51	4.35	5.14	5.17	5.13	5.13	4.59	5.21	5.09
24	3.55	2.74	2.18	2.51	4.48	5.13	5.21	5.12	5.09	4.55	4.96	5.13
25	3.50	2.70	2.14	2.32	4.77	5.08	5.19	5.18	5.14	4.49	5.05	5.14
26	3.47	2.70	2.21	2.59	4.93	5.09	5.17	5.18	5.14	4.48	5.10	5.15
27	3.39	2.67	2.13	2.59	5.13	5.10	5.09	5.19	5.15	4.22	5.10	5.17
28	3.37	2.65	2.10	2.59	5.15	5.10	5.10	5.19	5.18	4.39	5.03	5.19
29	3.36	2.66	2.08	2.58	-----	5.10	5.13	5.10	5.19	4.33	5.08	5.11
30	3.36	2.66	2.10	2.58	-----	5.08	5.17	5.24	5.11	4.15	5.02	5.12
31	3.32	-----	2.10	2.58	-----	5.05	-----	5.15	-----	4.41	5.00	-----

66-104

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

DISMAL SWAMP BASIN

2-0435. Cypress Swamp at Cypress Chapel, Va.

Location.--Lat 36°17'30", long 76°36'10", on right bank 10 ft upstream from bridge on State Highway 32, 0.5 mile downstream from Dragon Swamp, 0.8 mile northwest of Cypress Chapel, Nansemond County, and 6.5 miles south of Suffolk.

Drainage area.--23 sq mi, approximately.

Records available.--October 1953 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 28.65 ft above mean sea level, datum of 1929.

Average discharge.--13 years, 29.1 cfs.

Extremes.--Maximum discharge during year, 660 cfs Aug. 9 (gage height, 5.90 ft); no flow at times during year.
1953-66: Maximum discharge, 1,190 cfs May 7, 1958; maximum gage height, 6.62 ft Sept. 12, 1960; no flow at times each year.

Remarks.--Records fair.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0	1.0	2.6	2.7	252	6.6	2.9	33	0.60	0	2.6
2	.20	0	1.0	2.3	2.8	190	4.6	46	19	.10	0	1.4
3	0	0	1.0	2.4	2.9	89	3.7	90	10	0	0	1.0
4	0	0	1.2	2.2	3.0	108	3.6	54	3.9	0	46	.60
5	0	0	1.2	2.2	3.3	222	8.6	30	2.4	0	239	.30
6	0	0	1.2	1.6	4.5	154	9.8	20	1.4	0	112	.10
7	.20	0	1.2	1.9	9.0	80	6.0	13	.80	0	33	0
8	2.4	0	1.2	13	15	54	3.9	8.6	1.1	0	12	0
9	2.1	0	1.2	6.6	30	43	3.7	4.6	.70	0	204	0
10	1.0	0	1.2	1.9	48	37	3.6	3.6	23	0	484	0
11	.40	0	1.2	3.4	57	33	3.2	2.6	49	0	172	0
12	.30	0	1.3	3.2	52	31	3.0	2.1	24	0	41	0
13	.10	0	2.0	2.7	58	28	3.4	1.6	9.2	0	104	0
14	0	0	2.7	2.7	70	23	6.0	2.6	3.2	0	116	.10
15	0	0	2.9	3.2	50	21	5.3	3.9	1.6	0	58	.20
16	0	0	2.1	13	30	21	3.7	3.0	.80	0	36	.20
17	0	0	1.8	16	65	18	3.3	1.9	140	0	24	.10
18	0	0	1.6	11	57	16	2.9	1.2	192	0	14	0
19	0	0	1.7	4.0	60	18	2.6	1.6	99	0	5.3	0
20	0	.10	1.7	3.4	67	24	2.4	4.6	138	0	3.2	2.3
21	0	.20	1.6	3.3	48	22	2.3	2.1	67	0	13	4.6
22	0	.40	1.6	5.3	37	18	2.4	2.0	31	0	58	3.3
23	0	1.2	1.5	31	32	15	3.3	1.5	15	0	58	1.5
24	0	1.5	1.5	25	71	13	3.4	1.0	5.3	0	130	.70
25	0	1.3	2.0	15	239	17	3.0	2.4	2.5	0	148	.30
26	0	1.2	3.4	4.6	156	17	2.6	37	1.4	0	99	.10
27	0	1.2	3.6	3.5	76	13	3.0	25	.60	0	56	.10
28	0	1.2	3.2	3.0	70	10	3.4	12	.30	0	31	.60
29	0	1.2	3.0	2.8	-----	7.2	3.4	17	3.6	0	17	8.2
30	0	1.1	2.9	2.8	-----	6.0	3.0	90	1.7	0	7.9	.30
31	0	-----	2.6	2.7	-----	6.6	-----	75	-----	0	3.6	-----
Total	7.10	10.60	58.5	234.0	1,436.4	1,610.8	119.7	562.8	680.50	0.70	2,365.0	58.30
Mean	0.23	0.33	1.89	7.55	51.3	52.0	3.99	18.2	29.4	0.023	76.3	1.94
Cfs/m	0.010	0.013	0.082	0.328	2.23	2.26	0.173	0.791	1.28	0.001	3.32	0.084
In.	0.01	0.02	0.09	0.38	2.32	2.61	0.19	0.91	1.43	0.001	3.83	0.09

Calendar year 1965: Max 250 Min 0 Mean 18.0 Cfs/m 0.783 In. 10.56
Water year 1965-66: Max 484 Min 0 Mean 20.1 Cfs/m 0.874 In. 11.88

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-25	1000	4.60	252	6-18	0200	4.56	243
3-1	1700	4.76	288	8-5	0900	4.76	288
3-5	1200	4.52	234	8-9	2300	5.90	660

66-105

JAMES RIVER BASIN

2-0345, Willis River at Flanagan Mills, Va.

Location.--Lat 37°40'00", long 78°10'00", on left bank 15 ft upstream from bridge on State Highway 690, 0.4 mile east of Flanagan Mills, Cumberland County, 6.9 miles upstream from mouth, and 7.7 miles downstream from Reynolds Creek.

Drainage area.--267 sq mi.

Records available.--April 1926 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 178.98 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 3, 1935, chain gage at site a quarter of a mile upstream at same datum.

Average discharge.--41 years, 236 cfs.

Extremes.--Maximum discharge during year, 1,550 cfs Aug. 27 (gage height, 12.42 ft); minimum, 16 cfs Aug. 20, 21 (gage height, 2.76 ft).
1926-67: Maximum discharge, 9,580 cfs Apr. 27, 1937 (gage height, 23.86 ft, from floodmarks), from rating curve extended above 9,800 cfs on basis of velocity-area studies, with backwater correction; minimum, 1.5 cfs Sept. 13, 14, 1966 (gage height, 2.26 ft).

Remarks.--Records good. Complete regulation of flow from Trice Lake (total capacity, about 1,100 ac-ft), tributary to Willis River, slightly affects flow at gage.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	300	74	99	120	99	194	140	81	82	52	32	99
2	770	78	87	150	98	178	134	79	87	52	30	92
3	668	92	74	250	97	167	130	81	77	63	28	84
4	491	97	61	465	91	156	123	85	67	71	27	66
5	156	92	54	542	90	145	118	80	61	65	25	58
6	98	81	51	510	87	140	123	72	56	52	41	52
7	72	72	55	393	92	651	120	176	52	44	51	47
8	57	67	61	365	84	1,010	113	465	49	61	36	44
9	48	66	61	657	80	1,010	106	465	46	61	31	42
10	45	67	57	713	90	533	102	230	43	43	35	42
11	42	69	61	622	100	268	102	152	40	44	40	44
12	36	70	69	339	140	242	98	127	38	39	32	53
13	32	75	69	246	172	223	93	109	36	36	28	44
14	30	77	90	223	178	365	94	114	34	89	25	39
15	30	70	128	254	261	639	98	158	33	91	23	36
16	30	64	126	268	326	622	97	191	33	55	21	36
17	30	62	107	211	274	450	90	164	32	44	20	34
18	31	60	93	172	223	287	94	132	33	62	19	34
19	452	61	86	150	200	223	97	107	68	118	18	34
20	810	61	80	120	211	194	90	98	130	330	17	32
21	657	58	79	125	600	313	82	88	64	313	26	33
22	405	56	79	162	732	526	81	89	55	102	61	36
23	167	58	77	172	732	465	82	104	253	74	280	39
24	132	72	78	156	442	306	78	103	450	57	1,010	36
25	113	76	78	140	287	235	72	93	580	46	1,100	32
26	103	72	78	128	200	206	71	82	491	41	1,310	33
27	91	78	78	123	172	189	98	74	112	36	1,500	30
28	83	77	80	140	178	172	123	70	72	33	622	30
29	82	86	100	134	116	172	108	67	59	31	174	34
30	83	96	250	116	116	172	90	68	53	33	119	40
31	78	140	103	103	156	156	71	71	36	86	86	40
Total	6,222	2,184	2,686	8,271	6,336	10,609	3,047	4,075	3,286	2,234	6,867	1,355
Mean	201	72.8	86.6	267	226	342	102	131	110	72.1	222	45.2
Max	810	97	250	713	732	1,010	140	465	580	330	1,500	99
Min	30	56	51	103	80	140	71	67	32	31	17	30
Cfsm	.814	.295	.351	1.08	.915	1.38	.413	.530	.443	.292	.899	.183
In.	.94	.33	.40	1.24	.95	1.59	.46	.61	.50	.34	1.04	.20
Cal yr 1966	Total 43,798.4	Mean 120	Max 1,640	Min 1.5	Cfsm .486	In. 6.60						
Wtr yr 1967	Total 57,172	Mean 157	Max 1,500	Min 17	Cfsm .636	In. 8.60						

Peak discharge (base, 1,700 cfs).--No peak above base.

67-90

JAMES RIVER BASIN

2-0330. James River at Cartersville, Va.

Location.--Lat 37°40'15", long 78°05'10", on left bank 200 ft downstream from bridge on State Highway 43 between Pemberton and Cartersville, Cumberland County, 2 miles downstream from Willis River, and at mile 152.4.

Drainage area.--6,242 sq mi.

Records available.--October 1898 to September 1967. Monthly discharge only for some periods, published in WSP 1303.

Gage.--Digital water-stage recorder. Datum of gage is 161.57 ft above mean sea level (levels by Corps of Engineers). Prior to June 4, 1927, wire-weight or chain gage, and June 4, 1927, to June 10, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--59 years, 6,946 cfs.

Extremes.--Maximum discharge during year, 68,100 cfs Mar. 8 (gage height, 19.61 ft); minimum, 720 cfs Aug. 21 (gage height, 0.48 ft); minimum daily, 705 cfs Aug. 21.

1898-1967: Maximum discharge, 180,000 cfs Sept. 20, 1944 (gage height, 29.6 ft, from floodmark in gage well); minimum, 316 cfs Sept. 13, 14, 1966 (gage height, 0.02 ft); minimum daily, 330 cfs Sept. 14, 1966.

Remarks.--Records excellent. Moderate diurnal fluctuation caused by powerplants above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,290	2,580	6,720	5,710	8,850	5,610	6,440	3,890	4,150	1,510	1,270	4,240
2	17,200	2,410	7,100	5,630	7,660	5,680	6,190	3,760	4,410	1,580	1,200	3,580
3	13,200	2,850	5,800	5,990	6,810	5,140	5,540	3,860	4,400	2,320	1,170	2,950
4	12,600	4,000	4,390	6,530	6,300	4,930	5,210	4,110	4,470	2,250	1,040	2,410
5	8,260	5,050	4,180	8,060	5,480	4,670	4,830	4,450	4,620	1,640	1,170	2,370
6	6,070	6,390	3,830	8,790	5,220	4,770	4,980	4,220	4,280	1,610	1,300	2,270
7	4,460	5,370	3,530	8,170	4,950	16,400	4,850	4,510	3,790	1,560	1,680	2,000
8	3,650	4,350	3,330	7,600	4,730	59,800	4,650	7,000	3,500	1,490	1,400	1,570
9	3,020	3,630	3,200	9,890	4,620	65,500	4,530	8,640	3,210	1,460	1,380	1,780
10	2,760	3,530	3,340	14,100	4,470	33,600	4,280	15,300	2,700	1,460	1,670	1,680
11	2,430	3,430	2,980	17,400	4,230	19,800	4,150	11,000	2,820	1,520	1,430	1,510
12	2,090	3,720	2,490	13,900	4,150	13,400	3,860	8,840	2,340	1,600	1,350	1,610
13	1,960	3,530	3,490	10,800	4,170	13,000	3,930	7,760	2,200	1,460	1,180	1,660
14	1,800	3,550	3,820	9,020	4,490	12,900	3,880	7,280	2,250	1,350	1,040	1,460
15	1,660	4,300	6,580	8,110	4,930	19,700	3,910	8,430	2,050	1,570	884	1,280
16	1,550	3,880	6,050	7,620	6,110	36,800	3,780	11,600	2,080	2,130	898	1,500
17	1,520	3,840	5,390	7,780	6,130	50,500	3,870	15,900	1,840	1,780	827	1,490
18	1,610	3,520	5,110	7,540	6,260	29,800	3,730	11,800	1,620	1,670	821	1,370
19	5,300	3,220	4,740	6,890	6,500	19,300	3,880	9,360	1,670	2,440	858	1,310
20	23,600	3,410	5,220	6,270	6,500	15,200	3,750	7,890	1,720	2,430	785	1,240
21	21,800	2,680	6,530	5,420	7,970	13,600	3,550	7,190	1,700	2,250	765	1,310
22	13,600	2,860	7,010	5,400	10,000	15,000	3,540	6,190	1,720	2,880	1,170	1,380
23	9,240	2,890	6,710	5,260	11,200	14,700	3,480	5,990	4,340	3,020	2,890	1,370
24	7,510	1,990	6,330	5,140	10,800	14,500	3,370	5,330	6,550	2,390	14,900	1,290
25	6,180	2,330	6,020	5,540	8,870	12,500	3,370	4,900	4,140	2,100	39,800	1,120
26	4,570	2,320	5,420	5,290	7,590	10,900	3,930	4,580	2,760	1,780	23,100	1,120
27	4,140	2,260	4,820	5,810	6,530	9,820	3,870	4,170	2,140	1,370	16,800	1,040
28	3,410	2,210	4,600	17,700	5,870	9,200	4,370	3,830	1,980	1,360	11,600	1,120
29	3,390	3,310	4,860	11,100	-----	7,970	3,870	3,840	1,680	1,210	8,060	1,200
30	3,070	5,660	5,850	13,700	-----	7,810	3,630	3,800	1,560	1,230	6,340	1,790
31	2,750	-----	6,190	10,500	-----	7,350	-----	3,670	-----	1,380	5,030	-----
TOTAL	201,690	105,270	158,870	266,660	181,410	561,850	127,220	213,690	88,690	56,290	153,808	52,020
MEAN	6,506	3,509	5,125	8,602	6,479	18,120	4,241	6,893	2,956	1,816	4,962	1,734
MAX	23,600	6,390	7,100	17,700	11,200	65,500	6,440	15,900	6,550	3,020	39,800	4,240
MIN	1,520	1,990	2,980	5,140	4,150	4,670	3,370	3,670	1,560	1,210	765	1,040
CFSM	1.04	.56	.82	1.38	1.04	2.90	.68	1.10	.47	.25	.79	.28
IN.	1.20	.63	.95	1.59	1.08	3.35	.76	1.27	.53	.34	.92	.31

CAL YR 1966: TOTAL 1,569,093 MEAN 4,299 MAX 51,200 MIN 330 CFSM .69 IN 9.35
WAT YR 1967: TOTAL 2,167,468 MEAN 5,938 MAX 65,500 MIN 765 CFSM .95 IN 12.91

Peak discharge (base, 40,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-8	2100	19.61	68,100	8-25	0945	14.96	46,400
3-17	1145	16.76	53,000				

67-91

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0365. Fine Creek at Fine Creek Mills, Va.

Location.--Lat 37°35'52", Long 77°49'12", on right bank 75 ft downstream from bridge on State Highway 1, at Fine Creek Mills, Powhatan County, 0.8 mile upstream from mouth and 6.7 miles northeast of Powhatan.

Drainage area.--23 sq. mi, approximately.

Records available.--July 1944 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 156.59 ft above mean sea level, datum of 1929. Prior to Oct. 28, 1953, chain gage or inclined staff gage and crest-stage indicator at same datum 75 ft upstream.

Average discharge.--23 years, 18.8 cfs.

Extremes.--Maximum discharge during year, 171 cfs Mar. 7 (gage height, 2.80 ft); minimum, 0.40 cfs Aug. 16-20 (gage height, 1.65 ft). 1944-67: Maximum discharge, 3,640 cfs Oct. 21, 1961 (gage height, 8.35 ft); minimum, 0.40 cfs Sept. 11, 1954, Aug. 29 to Sept. 8, 1966, Aug. 16-20, 1967; minimum gage height, 1.56 ft Sept. 11, 1954.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	5.6	6.0	20	12	17	15	10	10	3.2	3.0	5.6
2	13	6.0	6.0	30	12	15	15	10	4.2	2.0	1.8	3.6
3	6.2	11	5.6	27	10	17	15	19	7.9	10	1.0	2.8
4	5.2	6.4	4.6	32	10	16	13	12	6.8	7.0	1.2	2.2
5	4.6	5.6	4.6	33	10	16	16	11	6.8	4.5	1.8	2.2
6	4.4	5.6	5.6	26	10	17	21	10	6.4	3.5	1.8	2.0
7	4.1	5.2	5.2	21	10	117	15	70	6.4	2.5	1.2	1.8
8	3.9	5.2	4.9	50	13	111	12	55	5.6	3.5	1.2	1.8
9	3.7	5.2	4.9	65	10	40	12	26	5.2	5.0	.90	2.0
10	3.5	5.6	5.2	34	12	31	13	19	4.9	4.5	1.0	2.8
11	3.4	5.6	6.8	25	16	25	13	16	4.2	4.0	1.2	2.5
12	3.2	6.0	5.6	20	22	23	12	13	3.6	3.5	.70	2.0
13	3.1	6.4	7.9	17	16	35	12	12	1.6	1.6	.70	2.0
14	3.0	5.4	15	22	20	74	12	24	3.3	3.9	.70	2.0
15	3.0	5.2	8.6	24	30	137	12	23	3.9	3.9	.60	1.8
16	3.0	4.9	6.8	17	22	86	11	23	1.3	3.3	.50	1.8
17	3.0	4.9	6.4	15	18	38	11	14	2.5	2.5	.40	2.2
18	3.6	4.9	6.4	13	20	28	12	13	3.0	4.2	.40	2.8
19	62	5.2	6.0	12	18	22	10	11	4.2	4.9	.40	2.5
20	40	4.9	6.0	13	28	22	9.8	11	3.6	3.6	.60	2.0
21	11	4.9	6.8	15	81	53	9.8	9.8	3.0	3.0	1.2	1.8
22	7.3	4.9	6.0	20	49	38	10	16	2.5	2.8	4.6	2.8
23	6.4	4.9	5.6	16	36	28	9.2	16	6.8	2.2	7.3	2.2
24	5.6	4.9	5.6	14	27	25	9.2	11	6.9	2.0	25	1.8
25	5.6	5.2	8.6	13	20	22	7.9	10	3.3	1.6	10	1.6
26	5.6	6.0	7.9	12	20	21	15	9.2	3.9	1.6	5.6	1.4
27	4.9	5.6	6.4	17	15	19	28	8.6	1.0	1.6	5.2	1.6
28	4.9	7.9	6.4	20	21	18	14	7.9	2.2	1.2	25	2.2
29	4.9	9.2	40	14	---	25	11	9.2	2.0	1.6	7.9	2.8
30	4.6	7.3	38	12	---	19	10	9.6	2.0	2.0	4.9	1.8
31	4.9	---	21	12	---	16	---	11	---	3.3	3.6	---
Total	251.6	175.8	280.4	679	588	1,171	385.9	520.5	134.0	105.0	121.40	68.4
Mean	8.12	5.86	9.05	21.9	21.0	37.8	12.9	16.4	4.60	3.19	3.92	2.28
Max	62	11	40	63	81	137	28	70	10	10	25	5.6
Min	3.0	4.9	4.6	12	10	15	7.9	7.9	2.0	1.2	.40	1.4
Cfsm	.333	.255	.393	.952	.913	1.64	.561	.710	.200	.147	.170	.099
In.	.41	.28	.45	1.10	.95	1.89	.63	.86	.22	.17	.20	.11

Cal yr 1966: Total 3,787.70

Mean 10.4

Max 152

Min .40

Cfsm .457

In. 6.11

Wtr yr 1967: Total 4,485.00

Mean 12.3

Max 137

Min .40

Cfsm .535

In. 7.75

Peak discharge (base, 200 cfs).--No peak above base.

67-92

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0370. James River & Kanawha Canal near Richmond, Va.

Location.--Lat 37°33'52", long 77°36'28", on left bank 75 ft downstream from canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Bosher Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond, Henrico County.

Records available.--September 1936 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 106.07 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

Average discharge.--11 years, 861 cfs.

Extremes.--Maximum discharge during year, 1,140 cfs Mar. 18 (gage height, 9.07 ft); slight leakage through gates when closed at times during year.
1936-67: Maximum gage height, 19.7 ft Sept. 20, 1944 (discharge not determined, flow of canal merges with James River); no flow at times when head gates were closed.

Remarks.--Records good. Canal diverts from James River 1,200 ft above Bosher Dam and discharges into river at several points below gaging station near Richmond. Figures given show flow in canal only; for record of flow of James River near Richmond, see page 94.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	900	805	884	884	900	900	900	852	820	745	745	868
2	920	805	849	884	900	900	900	852	852	760	745	836
3	920	805	456	884	836	900	884	860	836	775	731	820
4	900	805	868	900	377	884	868	860	852	805	731	805
5	884	164	836	900	900	884	868	870	852	790	731	790
6	868	189	836	900	884	868	852	868	836	775	731	790
7	884	900	836	884	884	920	852	884	836	760	745	775
8	836	868	820	884	884	940	852	940	820	760	745	775
9	820	852	820	884	868	980	868	940	805	760	745	760
10	805	836	820	900	868	960	868	980	805	760	745	760
11	790	836	820	940	868	1,000	868	940	790	745	745	760
12	790	836	820	920	868	980	852	920	790	760	745	760
13	775	836	836	920	868	960	852	920	775	760	745	760
14	745	836	852	884	868	960	852	900	775	760	731	760
15	760	836	900	884	884	980	852	920	775	745	717	745
16	760	852	900	900	900	1,000	852	920	775	760	717	745
17	745	836	884	900	920	1,020	852	960	760	775	717	760
18	745	836	868	900	900	655	852	920	760	760	717	760
19	805	820	868	900	900	1,000	852	900	760	760	717	745
20	900	820	868	900	920	80	852	900	760	790	717	745
21	920	820	884	884	940	60	852	920	760	790	717	745
22	900	805	900	900	940	80	852	900	760	775	717	596
23	900	820	884	884	940	80	836	884	775	805	760	239
24	900	805	900	884	940	940	836	884	868	805	884	760
25	884	790	884	900	940	960	836	868	868	775	960	745
26	868	790	884	900	920	960	852	852	820	775	940	745
27	852	790	868	900	920	960	852	852	790	760	900	745
28	836	790	884	920	920	960	868	836	775	745	920	745
29	820	805	836	900	-----	960	868	836	760	745	920	745
30	820	868	900	920	-----	940	852	820	760	745	900	745
31	805	-----	900	900	-----	920	-----	836	-----	745	884	-----
Total	26,057	23,656	26,365	27,844	24,657	29,031	25,752	27,594	23,970	23,770	24,164	22,329
Mean	841	789	850	898	881	936	858	890	799	767	779	744
Max	920	900	900	940	940	1,020	900	980	868	805	960	868
Min	745	164	456	884	377	455	836	820	760	745	717	239
Cal yr 1966: Total	280,183		Mean	768	Max	940	Min	63				
Wtr yr 1967: Total	305,189		Mean	836	Max	1,020	Min	164				

67-93

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-D375. James River near Richmond, Va.

Location.--Lat 37°33'47", long 77°32'50", on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 0.5 mile west of city limits of Richmond, Henrico County, 1.7 miles downstream from Boshier Dam, 3.3 miles upstream from Powhite Creek, and at mile 111.7.

Drainage area.--6,757 sq mi.

Records available.--October 1936 to September 1967. Gage-height records collected in vicinity of Mayo's Bridge, at mile 104.6, 1876-1956, and at mile 103.7, since 1957, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Control is Williams Island Dam which divert flow for City of Richmond water supply. Datum of gage is 98.82 ft above mean sea level, datum of 1929.

Average discharge.--33 years, 7,205 cfs (includes flow in James River & Kanawha Canal).

Extremes.--Maximum discharge during year, 70,600 cfs Mar. 9 (gage height, 15.37 ft); minimum, 95 cfs Aug. 19 (gage height, 3.05 ft). 1934-67: Maximum discharge, 175,000 cfs Mar. 19, 1936 (gage height, 23.42 ft); minimum daily, about 10 cfs Sept. 8-15, 1966; minimum daily discharge of James River and James River & Kanawha Canal combined, 370 cfs Sept. 13, 1966. Probable minimum daily discharge, since 1899, of James River and James River & Kanawha Canal combined, about 350 cfs in October 1930. (Minimum daily of record for James River at Cartersville, 330 cfs Sept. 14, 1966.)

Remarks.--Records good. City of Richmond takes from 40 to 90 cfs for water supply from river below gage except during periods of low flow when supply is obtained from James River & Kanawha Canal. Flow regulated by powerplants above station. Extremes and records of daily discharge include diversion by City of Richmond, but do not include flow in James River & Kanawha Canal which diverts around station. For canal records, see page 93.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,550	2,160	4,840	5,550	8,760	5,400	6,320	3,100	3,200	890	710	4,450
2	12,500	2,020	6,640	5,260	7,660	5,120	5,850	3,320	3,820	850	610	3,380
3	15,900	1,950	6,160	5,400	6,640	4,840	5,260	3,320	3,580	1,050	550	2,950
4	13,100	2,400	4,450	6,000	6,480	4,580	4,980	3,320	3,950	1,740	550	2,350
5	9,510	4,450	3,450	7,150	5,120	4,320	4,710	3,700	3,820	1,650	450	1,380
6	6,480	5,550	3,450	8,570	4,710	4,200	4,580	3,700	3,820	1,140	530	1,790
7	4,840	5,400	3,150	8,380	4,450	6,600	4,710	4,200	3,320	930	690	1,690
8	3,700	4,200	2,900	7,840	4,450	42,900	4,450	6,000	3,050	930	1,010	1,440
9	3,050	3,700	2,720	8,760	4,080	67,600	4,200	7,150	2,700	850	770	1,070
10	2,450	3,120	2,680	11,300	4,080	55,300	4,080	12,600	2,400	810	790	1,160
11	2,160	2,880	2,700	17,400	3,820	22,800	3,820	11,800	2,110	790	1,030	1,050
12	1,790	2,950	2,520	15,400	3,820	16,400	3,820	8,940	2,040	850	810	930
13	1,460	3,100	3,020	12,200	3,700	13,500	3,580	7,490	1,580	910	730	950
14	1,370	2,920	3,820	9,320	3,820	12,200	3,580	6,810	1,560	830	570	970
15	1,160	3,200	5,850	8,380	4,320	16,900	3,580	7,150	1,560	750	415	810
16	1,050	3,580	5,850	7,490	5,120	28,500	3,580	8,380	1,400	990	221	690
17	930	3,200	5,260	6,980	5,850	48,200	3,320	15,000	1,370	1,400	194	790
18	910	3,320	4,320	7,320	5,550	41,100	3,320	12,200	1,190	1,100	167	850
19	2,020	2,700	4,320	6,640	5,850	21,600	3,320	9,700	1,140	1,100	104	750
20	16,000	2,550	4,320	6,000	6,160	15,900	3,320	7,840	1,050	1,900	180	690
21	24,300	2,500	4,980	5,260	7,490	13,500	3,150	6,810	1,100	1,860	167	610
22	17,700	2,070	6,320	4,980	9,700	14,500	3,120	6,160	1,050	1,620	248	730
23	10,500	2,260	6,160	4,840	10,500	14,000	3,000	5,400	1,370	2,210	1,100	1,400
24	8,020	1,900	6,000	4,580	11,300	14,000	2,950	5,120	4,980	2,230	7,110	810
25	6,320	1,420	5,550	4,710	9,320	12,600	2,750	4,450	5,250	1,560	33,900	610
26	4,980	1,670	4,980	4,710	7,660	10,900	3,100	4,320	3,000	1,280	33,600	690
27	3,950	1,890	4,450	4,710	6,640	9,700	3,450	3,950	1,970	1,010	18,900	470
28	3,450	1,670	4,320	12,200	5,400	8,940	3,580	3,580	1,440	710	14,500	490
29	2,850	1,740	4,580	12,500	8,380	3,700	3,700	3,320	1,280	710	9,700	510
30	2,850	3,950	4,980	12,900	7,320	3,320	3,320	3,320	1,010	610	7,150	550
31	2,400	---	6,000	11,300	---	6,980	---	3,320	---	630	5,260	---
Total	193,220	86,220	140,740	254,030	172,450	558,780	116,560	195,470	71,110	35,890	142,716	37,310
Mean	6,233	2,874	4,540	8,195	6,159	18,025	3,881	6,305	2,370	1,158	4,604	1,250
Max	24,300	5,550	6,640	17,400	11,300	67,600	6,320	15,000	5,250	2,230	33,900	4,450
Min	910	1,420	2,520	4,580	3,700	4,200	2,750	3,100	1,010	610	104	470
#	841	789	850	898	881	936	858	890	799	767	779	764
Mean#	7,074	3,663	5,390	9,093	7,040	18,961	4,741	7,195	3,169	1,925	5,383	1,994
Cfsand	1.05	.542	.798	1.35	1.04	2.81	.702	1.06	.469	.285	.797	.295
In.#	1.21	.60	.91	1.56	1.08	3.24	.72	1.22	.52	.33	.92	.33

Cal yr 1966: Total 1,393,109 Mean 3,817 Max 52,600 Min 10 Mean# 4,585 Cfsand .679 In.# 9.20
Wtr yr 1967: Total 2,004,626 Mean 5,492 Max 67,600 Min 104 Mean# 6,328 Cfsand .937 In.# 12.71

Peak discharge (base 50,000 cfs)--Mar. 9 (2300) 70,600 cfs (15.77 ft).

Diversion, in cubic feet per second, by James River & Kanawha Canal.

Adjusted for diversion.

JAMES RIVER BASIN

2-0380, Falling Creek near Chesterfield, Va.

Location.--Lat 37°26'37", long 77°31'21", on left bank at upstream side of bridge on State Highway 651, 0.8 mile downstream from Licking Creek, 2.6 miles upstream from Pocomoke Creek, and 4.7 miles northwest of Chesterfield, Chesterfield County.

Drainage area.--32.8 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 126.39 ft above mean sea level, datum of 1929. Prior to Feb. 6, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--12 years, 32.2 cfs.

Extremes.--Maximum discharge during year, 227 cfs Oct. 19 (gage height, 5.57 ft); minimum, 0.92 cfs Aug. 18 (gage height, 1.72 ft). 1955-67: Maximum discharge, 2,510 cfs Sept. 12, 1960 (gage height, 12.67 ft); minimum, 0.80 cfs Sept. 11, 13, 1963; minimum gage height, 1.72 ft Sept. 12, 1966, Aug. 18, 1967.

Remarks.--Records good except those below 10 cfs, which are fair.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	6.0	7.9	38	21	41	27	16	11	4.9	1.8	3.7
2	22	6.7	7.3	52	21	35	26	14	9.2	4.2	1.7	3.1
3	12	11	6.5	55	19	33	25	16	7.4	4.4	1.6	2.2
4	7.7	8.7	5.7	61	18	31	23	14	6.5	4.0	1.9	2.1
5	6.2	7.5	5.5	67	18	29	26	13	6.0	3.8	2.7	2.0
6	5.0	6.5	5.8	53	18	28	31	12	5.5	3.3	1.9	1.9
7	4.3	6.5	6.2	43	22	55	28	61	5.2	3.0	1.7	1.8
8	3.9	6.2	6.4	64	20	55	24	70	4.8	3.3	1.6	1.9
9	3.6	6.4	6.2	76	18	40	22	45	4.5	3.9	1.5	2.0
10	3.4	6.7	6.4	55	21	34	22	33	4.1	3.5	1.5	2.5
11	3.2	7.7	8.1	42	28	33	22	26	3.3	3.2	1.5	2.1
12	3.1	8.5	8.1	34	44	43	20	21	3.1	2.7	1.4	1.9
13	3.0	11	16	31	38	46	19	18	2.9	2.6	1.4	1.8
14	3.0	8.7	31	39	37	77	19	20	2.9	2.6	1.3	1.9
15	2.8	7.7	22	46	63	136	19	26	3.0	2.8	1.2	1.9
16	3.0	6.5	16	35	64	109	18	33	3.1	2.8	1.2	1.8
17	2.8	6.7	13	29	55	70	18	24	2.8	2.6	1.0	1.8
18	2.9	6.5	12	26	54	53	23	18	2.9	3.2	1.0	1.8
19	136	6.2	10	24	45	43	18	15	3.7	3.7	1.0	1.8
20	112	6.0	5.8	23	60	40	15	13	5.7	3.6	1.1	1.7
21	40	5.3	10	27	160	76	19	11	4.9	4.3	5.2	1.8
22	23	5.0	9.2	32	127	88	16	16	4.0	2.9	2.9	1.6
23	19	4.5	8.5	29	93	62	14	19	8.9	2.5	3.9	1.5
24	15	4.7	11	26	77	50	14	15	6.5	2.3	30	1.4
25	15	5.0	11	23	56	42	14	12	5.1	2.2	13	1.4
26	14	6.2	12	22	43	39	18	10	45	2.0	8.7	1.3
27	11	6.5	11	28	40	35	35	8.8	32	2.0	30	1.3
28	9.2	8.7	10	36	45	33	28	8.0	13	2.0	39	1.4
29	8.3	12	64	28	-----	38	21	8.3	7.4	2.1	14	1.8
30	6.7	10	81	23	-----	34	19	8.0	5.8	2.5	7.4	1.3
31	8.0	-----	49	21	-----	30	-----	10	-----	2.0	4.9	-----
TOTAL	517.1	217.2	486.6	1,188	1,325	1,558	639	634.1	230.2	94.9	189.0	56.5
MEAN	16.7	7.24	15.7	38.3	47.3	50.3	21.3	20.3	7.67	3.06	6.10	1.88
MAX	136	12	81	76	160	136	35	70	45	4.9	39	3.7
MIN	2.8	4.7	5.5	21	18	28	14	8.0	2.8	2.0	1.0	1.3
CFSM	.51	.22	.48	1.17	1.44	1.53	.65	.62	.23	.69	.19	.06
IN.	.59	.25	.55	1.35	1.50	1.77	.72	.72	.26	.11	.21	.06

CAL YR 1966: TOTAL 5,109.9

MEAN 14.0

MAX 176

MIN 1.2

CFSM .43

IN 5.79

WAT YR 1967: TOTAL 7,135.6

MEAN 19.5

MAX 160

MIN 1.0

CFSM .60

IN 8.09

Peak discharge (base, 350 cfs).--No peak above base.

67-95

JAMES RIVER BASIN
2-0388.5, Holiday Creek near Andersonville, Va.
(hydrologic bench-mark station)

Location.--Lat 37°26'55", long 78°38'10", on right bank 350 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville, Buckingham County.

Drainage area.--8.53 sq mi.

Records available.--April 1966 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 475 ft (from topographic map).

Extrema.--Maximum discharge during year, 377 cfs June 23 (gage height, 3.80 ft); minimum, 1.3 cfs Aug. 17-19; minimum gage height, 0.95 ft June 21, 22.

1966-67: Maximum discharge, that of June 23, 1967; minimum, 0.10 cfs Sept. 11, 12, 1966; minimum gage height, 0.75 ft July 28, 1966.

Remarks.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62	2.3	2.5	6.5	4.2	5.7	5.0	3.9	4.7	2.2	2.1	5.1
2	15	3.9	2.5	7.9	4.2	5.1	4.9	3.7	3.9	2.5	1.7	3.4
3	5.1	5.5	2.3	8.5	3.9	5.2	4.8	4.4	3.4	3.5	1.5	3.0
4	3.4	3.1	2.2	10	3.8	5.0	4.5	3.7	3.1	2.3	1.0	2.9
5	2.7	2.8	2.4	10	3.9	4.8	4.6	3.8	2.9	1.9	4.8	2.8
6	2.3	2.7	2.5	7.2	3.8	4.8	4.7	3.7	2.7	1.7	3.3	2.6
7	2.1	2.6	2.4	6.3	5.0	25	4.5	17	2.6	1.8	2.7	2.5
8	2.1	2.6	2.4	23	6.7	11	4.2	9.0	2.5	2.6	3.4	2.4
9	2.0	2.6	2.3	20	5.3	7.8	4.3	6.2	2.3	2.3	2.4	2.2
10	2.0	2.8	2.5	11	8.2	6.9	4.5	5.0	2.2	1.8	2.3	3.1
11	1.8	2.8	3.4	8.6	4.8	6.5	4.3	4.7	2.1	1.9	1.9	2.6
12	1.7	2.9	2.7	6.8	5.2	6.3	4.1	4.3	1.9	2.0	1.6	2.5
13	1.6	2.8	3.5	6.2	6.1	7.2	4.5	4.0	1.9	2.7	1.6	2.9
14	1.6	2.6	5.6	9.4	5.8	11	4.4	5.0	1.9	2.1	1.6	2.2
15	1.6	2.6	4.8	8.7	8.1	15	4.2	6.2	2.1	2.6	1.5	2.1
16	1.8	2.5	3.7	6.7	6.6	10	3.9	6.3	1.9	2.1	1.4	2.1
17	1.7	2.5	3.4	5.8	6.0	8.0	4.6	4.6	1.7	1.9	1.4	2.3
18	3.4	2.5	3.4	5.3	5.7	6.7	5.1	4.3	1.7	3.8	1.4	2.3
19	47	2.5	3.1	5.8	5.2	6.1	4.1	3.8	2.0	6.1	2.2	2.1
20	8.7	2.2	3.4	10	15	6.0	3.9	3.5	1.7	4.2	2.5	2.2
21	4.5	2.2	3.5	5.7	22	13	4.0	3.6	1.7	3.3	4.5	2.3
22	3.5	2.2	3.1	6.0	11	9.3	4.2	5.3	14	2.7	11	2.6
23	3.1	2.3	3.3	5.3	8.4	7.5	3.8	4.7	104	2.3	9.7	2.2
24	2.8	2.4	12	4.9	7.2	6.7	3.6	4.0	7.1	2.0	72	2.2
25	2.7	2.2	12	4.7	12	6.1	3.4	3.7	3.9	1.9	36	2.1
26	2.6	2.5	6.3	4.6	11	5.9	4.8	3.4	2.9	1.9	12	2.1
27	2.3	2.4	5.5	5.8	8.9	5.5	6.0	3.1	2.5	1.7	7.5	2.2
28	2.3	4.3	7.0	5.1	6.0	5.6	4.4	3.0	2.8	1.5	7.2	3.3
29	2.2	3.6	54	4.4	---	6.7	4.0	3.4	2.1	1.6	4.7	3.0
30	2.1	2.6	19	4.3	---	5.4	3.9	3.3	2.5	2.8	3.9	2.5
31	2.2	---	6.9	4.2	---	5.0	---	6.5	---	3.9	3.7	---
TOTAL	199.9	83.7	194.0	238.7	204.1	240.6	131.2	151.1	192.7	114.8	223.5	78.0
MEAN	6.45	2.79	6.26	7.70	7.29	7.77	4.37	4.87	6.42	3.70	7.21	2.60
MAX	62	5.5	54	23	22	25	6.0	17	104	38	72	5.1
MIN	1.6	2.2	2.2	4.2	3.8	4.8	3.4	3.0	1.7	1.5	1.4	2.1
CFSM	.76	.33	.73	.90	.85	.91	.51	.57	.75	.43	.85	.30
In.	.87	.36	.85	1.04	.89	1.05	.57	.66	.84	.50	.97	.34
CAL YR 1966: TOTAL - MEAN - MAX - MIN - CFSM - IN -												
WAT YR 1967: TOTAL 2,052.5 MEAN 5.62 MAX 104 MIN 1.4 CFSM .66 IN 8.95												

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-1	1600	3.01	230	6-23	0245	3.80	377

67-96

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0390. Buffalo Creek near Hampden Sydney, Va.

Location.--Lat 37°15'25", Long 78°29'10", on left bank 100 ft above bridge on State Highway 618, 0.8 mile upstream from Locket Creek, 2.4 miles northwest of Hampden Sydney, Prince Edward County, and 5.2 miles southwest of Farmville.

Drainage area.--70 sq mi, approximately.

Records available.--August 1946 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 339.19 ft above mean sea level, datum of 1929 (levels by Virginia Department of Highways). Prior to Aug. 19, 1953, staff gage at same site and datum.

Average discharge.--21 years, 61.4 cfs.

Extremes.--Maximum discharge during year, 386 cfs Aug. 25 (gage height, 5.33 ft); minimum, 14 cfs June 17, 18, Aug. 19, 20, Sept. 26, 27; minimum gage height, 1.15 ft June 17, 18.
1946-67: Maximum discharge, 6,440 cfs Aug. 18, 1955 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs by logarithmic plotting; minimum, 5.0 cfs July 27-30, 1966 (gage height, 0.83 ft).
Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	28	29	52	37	56	48	24	34	22	20	26
2	157	28	27	74	36	53	46	23	30	21	17	23
3	92	40	24	84	35	52	45	23	28	23	16	22
4	46	48	24	86	35	49	40	22	26	21	15	20
5	34	34	24	109	34	48	32	22	23	20	27	19
6	29	32	24	78	34	46	30	22	22	18	128	18
7	26	30	24	63	34	56	29	93	22	17	109	17
8	24	30	24	121	35	54	27	101	20	19	70	16
9	24	28	24	204	35	48	26	66	20	22	43	16
10	23	28	24	129	35	46	26	48	19	18	35	17
11	22	28	29	127	36	45	26	40	18	22	28	17
12	21	28	30	72	37	44	26	36	17	19	24	16
13	20	28	30	64	37	46	26	32	16	18	21	16
14	20	28	44	64	40	53	27	32	16	18	19	15
15	20	27	42	78	45	65	26	36	16	18	17	15
16	20	25	34	65	60	69	25	43	16	18	16	15
17	20	25	32	55	55	58	27	39	15	17	16	15
18	21	25	29	49	62	51	30	36	28	24	15	15
19	147	25	25	45	55	46	26	32	42	42	14	15
20	161	25	23	56	82	45	25	32	22	44	16	19
21	78	25	23	47	281	97	25	29	19	31	19	17
22	49	24	22	46	188	101	25	36	20	24	24	19
23	42	24	22	44	130	74	25	37	177	21	44	16
24	37	24	21	42	85	63	25	33	55	19	175	16
25	36	24	21	40	70	57	25	30	68	17	316	15
26	35	25	20	38	64	107	28	28	163	16	130	14
27	33	25	20	50	62	122	35	26	54	16	79	15
28	30	28	35	55	58	72	30	24	30	15	85	15
29	30	37	106	45	---	60	26	32	24	15	44	16
30	32	33	137	40	---	54	24	28	24	15	33	15
31	28	---	96	38	---	49	---	34	---	19	28	---
Total	1,485	859	1,088	2,162	1,797	1,886	881	1,143	1,084	649	1,645	510
Mean	47.9	28.6	35.1	69.7	64.2	60.8	29.4	36.9	36.1	20.9	53.1	17.0
Max	161	48	137	204	281	122	48	101	177	44	316	26
Min	20	24	20	38	34	44	24	22	15	15	14	14
Cfm	.684	.409	.501	.996	.917	.869	.420	.527	.516	.299	.759	.243
In.	.79	.44	.58	1.15	.95	1.00	.47	.61	.58	.34	.88	.27

Cal yr 1966: Total 14,364.0

Wtr yr 1967: Total 15,149

Mean 39.4

Mean 41.6

Max 595

Max 316

Min 5.0

Min 14

Cfm .563

Cfm .594

In. 7.65

In. 8.08

Peak discharge (base, 500 cfs).--No peak above base.

67-97

JAMES RIVER BASIN

2-0395. Appomattox River at Farmville, Va.

Location.--Lat 37°18'25", long 78°23'20", on left bank 4 ft downstream from bridge on State Highway 45 at north town limits of Farmville, Prince Edward County, and 1.1 miles downstream from Buffalo Creek.

Drainage area.--306 sq mi.

Records available.--March 1926 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 281.93 ft above mean sea level, datum of 1929. Prior to Nov. 29, 1928, chain gage, and Nov. 29, 1928, to May 4, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--41 years, 273 cfs.

Extremes.--Maximum discharge during year, 1,650 cfs Aug. 25 (gage height, 11.74 ft); minimum, 34 cfs Aug. 19 (gage height, 3.54 ft). 1926-67: Maximum discharge, 21,000 cfs Aug. 15, 1940 (gage height, 23.60 ft), from rating curve extended above 12,000 cfs by logarithmic plotting; minimum, 3.8 cfs Sept. 25, 1941; minimum daily, 9 cfs Sept. 20, 1932.

Remarks.--Records good. Diurnal fluctuation at low flow caused by Prince Edward Mill, 0.2 mile upstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	318	51	106	273	160	223	164	95	127	87	67	145
2	1,200	92	96	327	155	203	161	93	111	78	51	108
3	501	157	91	401	155	196	153	103	94	102	46	72
4	226	159	82	444	150	190	145	99	85	107	44	64
5	152	117	75	535	145	182	133	93	81	76	75	61
6	125	103	90	405	140	172	136	84	76	65	118	59
7	114	58	88	295	145	356	135	274	72	61	154	54
8	94	55	87	442	150	421	130	509	70	67	130	54
9	81	56	86	1,100	145	257	120	267	67	74	100	53
10	76	58	87	688	140	210	115	182	65	67	76	65
11	72	59	103	420	180	190	120	150	62	66	63	64
12	67	56	109	307	217	180	115	139	61	68	54	55
13	65	58	109	256	226	186	110	128	56	71	48	52
14	66	93	147	259	201	251	111	127	55	69	45	51
15	65	90	166	334	269	371	112	138	56	65	43	50
16	65	87	143	275	289	379	105	166	56	69	40	49
17	65	87	124	222	243	272	103	150	55	62	37	49
18	69	88	118	197	237	216	130	128	99	122	36	49
19	542	88	110	170	219	167	124	122	128	413	36	47
20	886	87	102	156	279	177	103	106	84	163	40	49
21	369	87	104	200	968	333	98	98	70	107	49	66
22	211	88	100	190	883	446	101	116	73	82	75	51
23	160	78	94	187	516	309	100	137	540	67	169	45
24	144	78	79	178	385	247	95	120	413	55	501	42
25	128	75	77	162	284	211	89	102	237	53	1,450	40
26	121	84	100	153	228	203	95	94	299	49	651	41
27	111	86	96	164	230	236	137	88	206	48	315	46
28	102	56	93	198	236	222	133	83	108	44	265	45
29	98	136	200	173	---	198	110	87	85	44	172	53
30	98	132	426	165	---	187	100	97	83	45	129	54
31	94	---	366	160	---	167	---	104	---	51	107	---
TOTAL	6,485	2,963	3,854	9,436	7,569	7,578	3,583	4,279	3,674	2,403	5,186	1,729
MEAN	209	98.8	124	304	270	244	119	139	122	84.0	167	57.4
MAX	1,200	159	426	1,100	968	446	164	509	540	413	1,450	145
MIN	65	78	75	153	140	167	89	82	55	44	36	40
CFSM	.68	.32	.41	.99	.88	.80	.39	.45	.40	.27	.55	.19
IN.	.79	.36	.47	1.15	.92	.92	.44	.52	.45	.32	.63	.21

CAL YR 1966: TOTAL 55,567 MEAN 153 MAX 2,640 MIN 18 CFSM .50 IN 6.80
WAT YR 1967: TOTAL 58,939 MEAN 161 MAX 1,450 MIN 36 CFSM .53 IN 7.16

Peak discharge (base, 3,500 cfs).--No peak above base.

67-98

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0400. Appomattox River at Mattoax, Va.

Location.--Lat 37°25'17", long 77°51'33", on right bank 75 ft upstream from Southern Railway bridge at Mattoax, Amelia County, D.3 mile upstream from Skinquarter Creek, and 1.7 miles upstream from Flat Creek.

Drainage area.--729 sq mi.

Records available.--August 1900 to December 1905, March 1926 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. 1900-05, 1926-67: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

Average discharge.--46 years, 688 cfs.

Extremes.--Maximum discharge during year, 2,740 cfs Feb. 23 (gage height, 15.10 ft); minimum, 50 cfs Aug. 20 (gage height, 5.38 ft). 1900-05, 1926-67: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	M. r.	Apr.	May	June	July	Aug.	Sept.
1	243	188	229	800	420	639	470	236	222	174	78	266
2	548	188	202	750	408	600	445	222	243	174	85	276
3	1,390	195	181	1,000	396	548	420	222	236	276	102	236
4	898	195	168	1,360	384	509	396	229	208	215	81	202
5	432	258	155	1,420	360	496	384	229	188	208	71	168
6	285	222	155	1,420	348	470	384	215	168	181	110	163
7	222	195	174	1,040	360	1,050	360	458	162	143	162	130
8	188	188	168	954	330	1,820	348	1,170	155	139	208	120
9	168	181	168	1,680	325	1,100	314	1,550	145	130	195	116
10	162	181	168	2,110	335	786	304	870	138	134	165	121
11	148	181	174	1,560	384	652	304	522	129	145	136	120
12	137	181	181	996	483	639	294	396	122	134	106	125
13	128	181	202	786	587	600	276	336	114	168	92	116
14	120	181	236	704	626	678	266	324	105	266	75	104
15	115	168	266	730	704	926	266	348	103	174	68	97
16	114	168	294	842	842	1,090	276	445	100	146	67	93
17	114	162	266	730	786	982	258	432	99	133	59	90
18	115	162	236	609	678	730	258	360	106	174	57	87
19	437	168	222	535	652	587	285	294	129	456	56	87
20	1,580	174	208	470	653	522	294	266	360	786	55	86
21	1,660	162	208	420	1,640	678	250	243	243	396	56	82
22	786	155	195	509	2,550	1,380	236	250	174	243	93	91
23	483	162	195	548	2,700	1,390	229	266	229	188	142	114
24	336	155	188	509	1,680	926	236	285	1,150	155	1,090	97
25	285	155	152	470	1,070	745	222	266	1,090	132	1,820	86
26	258	155	150	432	758	652	208	229	548	115	2,000	79
27	236	155	150	458	613	600	266	208	870	103	1,470	74
28	222	168	200	561	600	600	336	195	458	94	2,210	78
29	202	195	300	613	---	600	324	188	276	92	1,050	90
30	195	215	600	509	---	587	266	181	202	81	496	86
31	188	---	1,000	420	---	535	---	202	---	78	314	---
Total	12,415	5,394	7,391	25,936	21,672	26,117	9,175	11,637	8,472	6,033	12,769	3,660
Mean	400	180	238	837	774	778	306	375	282	195	412	122
Max	1,680	258	1,000	2,110	2,700	1,820	470	1,550	1,150	786	2,210	276
Min	114	155	150	420	325	470	208	181	99	78	55	74
Cfsm	.549	.247	.326	1.15	1.06	1.07	.420	.514	.387	.267	.565	.167
In.	.63	.28	.38	1.33	1.10	1.23	.47	.59	.43	.31	.65	.19

Cal yr 1966: Total 134,355 Mean 368 Max 3,760 Min 18 Cfsm .505 In. 6.87
Wtr yr 1967: Total 148,671 Mean 407 Max 2,700 Min 55 Cfsm .558 In. 7.59

Peak discharge (base, 4,000 cfs)--No peak above base.

67-99

JAMES RIVER BASIN

7-D410. Deep Creek near Mannboro, Va.

Location.--Lat 37°16'59", long 77°32'22", on left bank 300 ft upstream from bridge on State Highway 153, 0.9 mile upstream from Swathouse Creek, 3.4 miles northwest of Mannboro, Amelia County, and 7.5 miles southeast of Amelia.

Drainage area.--156 sq mi.

Records available.--September 1946 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 2, 1949, staff gage at same site and datum.

Average discharge.--21 years, 131 cfs.

Extremes.--Maximum discharge during year, 1,120 cfs Aug. 28 (gage height, 6.85 ft); minimum, 4.3 cfs Aug. 19 (gage height, 0.51 ft).

1946-67: Maximum discharge, 7,140 cfs Sept. 25, 1947 (gage height, 13.1 ft. from floodmarks); minimum, 1.6 cfs Sept. 12, 13, 1966; minimum gage height, 0.29 ft Aug. 9-12, 1957.

Flood in August 1940 reached a stage of 14.8 ft (discharge, 10,000 cfs, from rating curve extended above 3,800 cfs by logarithmic plotting), from information by local resident.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	34	50	257	85	141	83	51	73	11	8.0	33
2	106	36	44	254	78	122	79	48	63	11	8.2	22
3	84	46	39	315	69	112	76	50	48	11	4.3	18
4	55	56	35	330	64	103	69	50	41	17	6.0	15
5	40	50	34	338	63	95	67	48	34	14	10	13
6	32	44	36	320	62	92	71	45	30	12	40	12
7	26	39	39	260	62	101	70	102	30	11	22	11
8	23	41	39	240	62	109	64	268	28	11	15	9.4
9	21	39	40	350	63	96	59	229	24	18	14	9.0
10	21	39	39	450	64	86	59	118	24	20	15	11
11	21	40	46	350	70	82	60	85	21	17	12	13
12	20	41	50	250	90	80	57	71	17	16	9.4	11
13	21	46	56	170	110	90	53	62	17	15	8.5	12
14	21	46	118	150	70	98	53	59	17	14	7.7	9.4
15	22	46	118	160	140	112	55	63	15	14	7.1	8.6
16	22	41	88	180	212	118	53	74	16	15	6.3	7.4
17	24	34	72	160	166	101	50	67	12	13	6.0	7.4
18	28	34	64	130	228	84	62	58	11	12	5.3	7.4
19	127	35	61	120	212	75	58	50	15	12	5.1	7.8
20	390	34	60	100	188	73	50	46	14	23	28	7.8
21	328	34	57	90	519	142	50	44	13	28	125	11
22	118	33	33	110	950	330	48	49	12	18	90	10
23	75	33	50	120	495	244	46	71	28	14	49	10
24	60	33	51	110	278	151	42	68	39	11	86	8.6
25	51	34	52	100	183	122	39	58	28	9.1	266	8.2
26	48	37	54	95	136	110	41	46	22	7.7	562	7.0
27	44	41	56	100	131	100	87	39	16	6.8	260	7.0
28	41	43	58	120	136	93	91	36	14	6.3	822	8.6
29	39	58	148	140	---	106	69	38	12	7.7	673	13
30	37	58	330	120	---	105	55	44	11	7.7	130	12
31	35	---	430	100	---	91	---	56	---	9.1	50	---
Total	2,008	1,225	2,467	6,089	4,986	3,564	1,816	2,193	745	412.4	3,352.9	340.6
Mean	64.8	40.8	79.6	196	178	115	60.5	70.7	24.8	13.3	108	11.4
Max	390	58	430	450	950	330	91	268	73	28	822	33
Min	20	33	34	90	62	73	39	36	11	6.3	5.1	7.0
Cfm	.415	.262	.510	1.26	1.18	.737	.388	.453	.159	.085	.692	.073
In.	.48	.29	.59	1.45	1.19	.85	.43	.52	.18	.10	.80	.08
Cal yr 1966: Total	31,286.5					1,910	Min 1.6	Cfm .349	In. 7.46			
Wtr yr 1967: Total	29,198.9					950	Min 5.1	Cfm .513	In. 6.96			

Peak discharge (base, 1,200 cfs).--No peak above base.

67-100

JAMES RIVER BASIN

2-0425. Chickahominy River near Providence Forge, Va.

Location.--Lat 37°26'10", long 77°03'40", on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, New Kent County, and 1.7 miles downstream from Schminnow Creek.

Drainage area.--249 sq mi.

Records available.--January 1942 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 6.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 14, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--25 years, 258 cfs.

Extremes.--Maximum discharge during year, 631 cfs Feb. 25 (gage height, 7.67 ft); minimum, 11 cfs Sept. 20; minimum gage height, 1.96 ft July 30.
1942-67: Maximum discharge, 7,710 cfs Aug. 15, 1955 (gage height, 11.67 ft); minimum, 3.4 cfs Aug. 1, 1954; minimum gage height, 1.53 ft Sept. 13, 1963.

Remarks.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1946 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	85	87	85	186	206	486	230	123	50	28	29	323
2	108	77	85	141	231	414	211	129	52	22	35	214
3	122	104	82	126	236	351	196	124	54	20	31	99
4	156	56	80	86	206	293	181	103	55	20	22	44
5	191	85	75	42	176	253	174	85	53	22	32	31
6	201	85	73	4	151	232	182	77	48	21	47	25
7	191	86	70	57	151	241	175	120	40	16	40	22
8	186	87	68	64	141	281	173	196	33	19	27	20
9	166	85	67	66	131	307	164	225	28	19	20	18
10	90	80	66	76	122	299	157	285	24	18	17	19
11	54	77	68	90	151	279	154	287	22	25	21	21
12	42	76	69	112	196	298	144	265	20	24	45	22
13	35	88	77	141	201	353	131	291	18	23	54	21
14	30	86	115	136	239	405	122	331	16	18	34	19
15	28	88	122	105	280	425	115	340	16	16	22	16
16	28	88	146	114	318	399	109	293	15	17	18	16
17	29	85	156	141	341	374	103	210	14	19	16	17
18	30	83	171	186	430	360	105	152	14	21	15	16
19	83	80	191	226	430	357	100	139	14	18	14	16
20	201	77	201	236	420	385	97	149	15	16	15	16
21	216	73	196	231	450	459	92	176	16	24	28	15
22	322	70	161	241	521	539	87	215	17	54	56	14
23	396	66	131	251	556	517	83	222	21	64	71	12
24	396	63	116	241	584	464	79	168	24	53	117	12
25	484	63	105	236	596	406	74	113	30	33	227	15
26	520	64	113	231	554	373	73	85	50	23	325	16
27	468	63	104	231	584	374	96	72	62	18	432	15
28	383	67	105	221	569	370	105	64	75	15	509	14
29	281	80	166	206	---	342	116	56	65	13	491	19
30	176	82	236	191	---	296	120	48	40	12	464	16
31	111	---	231	186	---	256	---	46	---	13	425	---
TOTAL	5,809	2,391	3,731	4,841	9,271	11,188	3,948	5,189	1,001	727	3,699	1,143
MEAN	187	79.7	120	156	331	361	132	167	33.4	23.5	119	38.1
MAX	520	104	236	251	596	539	230	340	75	64	509	323
MIN	28	63	66	42	122	232	73	46	14	12	14	12
CFSM	.75	.32	.48	.63	1.33	1.45	.53	.67	.13	.09	.48	.15
IN.	.87	.36	.56	.72	1.38	1.67	.59	.78	.15	.11	.55	.17
CAL YR 1966: TOTAL 43,424.2 MEAN 119 MAX 670 MIN 6.0 CFSM .48 IN 6.49												
WAT YR 1967: TOTAL 52,938 MEAN 145 MAX 596 MIN 12 CFSM .58 IN 7.91												

67-101

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

DISMAL SWAMP BASIN

2-0430. Lake Drummond in Dismal Swamp, Va.

Location--Lat 36°35'40", long 76°26'20", on left bank in outlet canal, in Chesapeake, 200 ft upstream from dam and gates, 0.5 mile downstream from Lake Drummond, 2.5 miles east of Nanassmond County line, 3.1 miles north of North Carolina State line, and 20 miles southwest of Norfolk.

Records available--May 1926 to September 1967.

Gage--Staff gage read twice daily. Datum of gage is 12.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes--Maximum gage height during year, 5.60 ft Aug. 27; minimum, 3.90 ft June 17.
1926-67: Maximum gage height, 6.68 ft Sept. 17, 1960; minimum, -0.67 ft Nov. 3, 1952.

Gage height, in feet, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.21	4.95	4.62	5.20	5.14	5.24	5.20	4.90	4.64	4.20	4.78	4.75
2	5.00	4.96	4.60	5.26	5.18	5.21	5.21	4.87	4.64	4.19	4.78	4.84
3	5.10	4.99	4.64	5.27	5.20	5.22	5.22	4.92	4.35	4.17	4.69	5.00
4	5.13	5.01	4.56	5.24	5.20	5.24	5.14	4.89	4.36	4.14	4.66	5.09
5	5.14	4.94	4.57	5.24	5.26	5.25	5.11	4.87	4.31	4.17	4.69	5.09
6	5.15	4.90	4.57	5.10	5.18	5.25	5.09	4.84	4.29	4.10	4.79	5.10
7	5.14	4.85	4.60	5.08	5.22	5.16	5.10	4.87	4.27	4.10	4.83	5.18
8	5.14	4.83	4.59	5.17	5.11	5.05	5.11	4.89	4.33	4.11	4.83	5.20
9	5.16	4.86	4.52	5.23	5.03	5.03	5.09	4.82	4.21	4.19	4.85	5.22
10	5.12	4.85	4.59	5.32	5.13	5.01	5.05	4.83	4.19	4.22	4.85	5.21
11	5.23	4.81	4.59	5.29	5.13	5.03	5.03	4.81	4.20	4.20	5.23	5.04
12	5.13	4.81	4.59	5.21	5.15	5.14	5.01	4.81	4.12	4.19	4.79	5.02
13	5.11	4.80	4.74	5.17	5.17	5.15	4.98	4.80	4.07	4.18	4.87	5.04
14	5.14	4.75	4.77	5.10	5.21	5.23	5.04	4.78	4.05	4.25	5.13	5.09
15	5.15	4.75	4.80	5.06	5.27	5.19	5.04	4.77	3.99	4.26	5.20	5.04
16	5.15	4.74	4.85	5.01	5.24	5.25	5.06	4.76	3.94	4.45	5.17	4.60
17	5.15	4.73	4.86	5.08	5.26	5.20	5.08	4.75	3.92	4.66	4.99	4.59
18	5.16	4.73	4.87	5.02	5.20	5.19	5.16	4.71	4.02	4.51	4.96	4.74
19	5.12	4.69	4.90	5.08	5.15	5.17	5.18	4.69	4.29	4.49	4.93	4.83
20	5.12	4.67	4.95	5.05	5.14	5.18	5.06	4.71	4.24	4.59	4.99	4.99
21	5.12	4.67	5.04	5.14	5.20	5.21	4.99	4.67	4.28	4.66	4.85	4.92
22	5.11	4.67	5.08	5.23	5.17	5.15	4.97	4.67	4.29	4.70	4.98	4.86
23	5.11	4.65	5.06	5.21	5.20	5.14	4.99	4.67	4.30	4.70	4.85	4.79
24	5.10	4.62	5.14	5.20	5.27	5.11	4.97	4.64	4.32	4.72	4.95	4.69
25	5.10	4.61	5.20	5.18	5.17	5.14	4.98	4.69	4.35	4.76	5.40	4.70
26	5.10	4.61	5.18	5.16	5.01	5.17	4.94	4.61	4.32	4.73	5.55	4.83
27	5.10	4.59	5.18	5.11	5.03	5.20	5.05	4.56	4.30	4.75	5.60	4.86
28	5.10	4.65	5.34	5.13	5.19	5.20	4.96	4.51	4.27	4.75	5.48	4.87
29	4.99	4.69	5.12	5.04	-----	5.20	4.95	4.66	4.22	4.78	5.37	4.87
30	5.02	4.65	5.09	5.09	-----	5.20	4.95	4.41	4.18	4.77	5.15	4.93
31	4.98	-----	5.14	5.07	-----	5.21	-----	4.47	-----	4.79	4.97	-----

67-102

DISMAL SWAMP BASIN

2-0433. Cypress Swamp at Cypress Chapel, Va.

Location.--Lat 36°37'30", long 76°36'10", on right bank 10 ft upstream from bridge on State Highway 32, 0.5 mile downstream from Dragon Swamp, 0.8 mile northwest of Cypress Chapel, Nansemond County, and 6.5 miles south of Suffolk.

Drainage area.--21 sq mi, approximately.

Records available.--October 1953 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 28.65 ft above mean sea level, datum of 1929.

Average discharge.--14 years, 28.9 cfs.

Extremes.--Maximum discharge during year, 1,330 cfs Aug. 11 (gage height, 6.85 ft); no flow at times during year. 1953-67: Maximum discharge, that of Aug. 11, 1967; no flow at times each year.

Remarks.--Records fair.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	0.80	7.2	23	22	39	6.6	0.40		0	0	13
2	16	.90	5.3	20	22	31	5.8	.20		0	0	8.2
3	11	1.2	3.9	17	21	27	5.0	.10		0	0	3.8
4	6.6	1.5	3.4	17	19	25	3.9	.10		0	0	1.8
5	3.9	1.5	3.3	27	19	22	4.2	.10		0	0	1.1
6	3.3	1.5	3.4	29	18	21	7.4	.10		0	0	.40
7	2.4	1.5	3.6	24	34	20	7.8	.60		0	0	.10
8	1.9	1.8	3.6	258	46	18	5.8	5.4		0	0	.10
9	1.4	1.9	3.6	462	34	15	4.7	4.2		0	0	0
10	1.2	2.0	3.6	221	34	14	4.5	1.7		0	20	110
11	4.0	2.0	3.7	160	53	14	4.2	.80		0	1,080	194
12	3.7	2.2	3.7	110	79	13	3.9	.30		0	467	83
13	2.4	2.4	17	76	74	14	3.6	.10		0	204	44
14	1.6	2.4	36	66	57	15	3.9	.10		.30	99	27
15	1.2	2.4	28	73	50	17	4.2	.10		7.8	54	17
16	1.0	2.6	16	68	44	15	3.6	4.6		24	30	13
17	.80	2.6	10	54	42	12	3.1	5.8		24	17	34
18	.60	2.9	7.9	46	128	8.6	4.5	1.1		5.0	10	46
19	.80	3.0	6.6	39	148	7.4	4.2	.10		2.0	6.2	32
20	1.3	3.0	6.0	42	81	7.0	2.0	0		29	7.5	20
21	1.4	2.9	6.0	45	61	19	1.0	0		10	33	13
22	1.1	2.9	6.0	33	63	40	.70	0		2.0	291	12
23	1.1	2.9	6.2	54	58	27	.60	0		.20	374	13
24	1.1	2.9	6.4	49	45	19	.20	0		.10	373	11
25	1.2	3.0	6.8	42	35	15	.10	0		0	204	7.2
26	1.2	3.2	7.4	36	30	12	.10	0		0	102	3.8
27	1.2	3.3	9.6	34	28	10	3.4	0		0	33	2.3
28	1.1	4.0	12	32	36	10	7.0	0		0	63	2.6
29	1.1	8.6	36	29	-----	10	3.6	0		0	31	12
30	1.0	8.6	44	25	-----	10	1.1	0		0	29	11
31	.80	-----	30	22	-----	7.8	-----	0	-----	0	18	-----
Total	99.40	82.40	346.2	2,251	1,381	534.8	110.50	25.90	0	104.40	3,585.70	736.40
Mean	3.21	2.75	11.2	72.7	49.3	17.3	3.68	.84	0	3.37	116	24.3
Max	22	8.6	44	462	148	40	7.8	5.8	0	29	1,080	194
Min	.60	.80	3.3	17	18	7.0	.10	0	0	0	0	0
Cfsm	.160	.120	.487	3.16	2.14	.752	.160	.037	0	.147	5.04	1.07
In.	.16	.13	.56	3.64	2.23	.87	.18	.04	0	.17	5.81	1.19

Cal yr 1966: Total 7,796.20 Mean 21.4 Max 484 Min 0 Cfsm .930 In. 12.61
 Wtr yr 1967: Total 9,259.70 Mean 25.4 Max 1,080 Min 0 Cfsm 1.10 In. 14.98

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-9	0100	5.73	590	8-22	1900	5.33	452
8-11	1600	6.85	1,330	9-11	0100	4.54	232

67-103

JAMES RIVER BASIN

2-0345. Willis River, at Flanagan Mills, Va.

Location.--Lat 37°40'00", long 78°10'00", on left bank 15 ft upstream from bridge on State Highway 690, 0.4 mile east of Flanagan Mills, Cumberland County, 6.9 miles upstream from mouth, and 7.7 miles downstream from Reynolds Creek.

Drainage area.--247 sq mi.

Records available.--April 1926 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 178.98 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 3, 1935, chain gage at site a quarter of a mile upstream at same datum.

Average discharge.--42 years, 234 cfs.

Extremes.--Maximum discharge during year, 1,690 cfs Jan. 15 (gage height, 12.92 ft); minimum, 8.5 cfs Sept. 28; minimum gage height, 2.60 ft Sept. 27, 28.
1926-68: Maximum discharge, 9,580 cfs Apr. 27, 1937 (gage height, 23.86 ft, from floodmarks), from rating curve extended above 5,800 cfs on basis of velocity-area studies, with backwater correction; minimum, 1.5 cfs Sept. 13, 14, 1966 (gage height, 2.26 ft).

Remarks.--Records good. Complete regulation of flow from Price Lake (total capacity, about 1,100 ac-ft), tributary to Willis River, slightly affects flow at gage.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	56	84	742	169	137	170	148	209	36	24	16
2	35	71	105	325	169	147	169	136	157	34	22	16
3	31	96	230	261	242	158	164	119	131	34	77	16
4	28	104	432	248	280	147	161	108	117	44	228	15
5	28	103	390	260	230	137	167	113	100	49	248	15
6	27	86	254	210	191	128	165	107	87	45	183	15
7	28	73	147	180	174	123	154	94	78	42	103	16
8	31	70	119	150	169	118	145	86	74	38	70	18
9	36	64	99	140	136	115	140	83	93	34	31	16
10	44	67	172	130	152	118	156	80	183	31	42	19
11	81	70	228	130	142	158	134	78	334	30	39	28
12	89	63	850	131	110	343	135	78	374	31	34	29
13	81	61	890	147	120	890	127	83	609	36	33	27
14	56	62	833	1,040	125	880	124	91	458	38	31	26
15	47	73	341	1,610	115	769	125	129	153	39	95	21
16	44	79	230	1,660	105	339	138	149	102	36	103	17
17	42	74	191	1,520	100	732	127	136	86	32	91	15
18	50	73	189	700	100	1,010	118	107	112	28	59	14
19	138	71	365	294	100	1,120	114	94	242	26	51	13
20	138	70	407	261	100	838	111	83	138	23	96	12
21	96	67	320	248	110	368	109	75	90	25	79	12
22	67	65	263	234	100	300	106	69	72	26	51	12
23	56	65	942	224	95	248	102	66	63	165	38	11
24	32	65	1,100	230	100	287	108	64	58	85	32	10
25	56	72	1,120	236	100	280	131	62	55	45	27	9.6
26	64	85	976	208	100	235	131	60	50	44	26	9.0
27	70	81	385	186	103	216	121	285	46	38	23	8.6
28	76	76	406	191	104	196	165	1,040	42	34	19	8.6
29	68	65	950	191	114	190	170	1,120	40	32	18	8.6
30	60	64	1,010	180	-----	183	165	1,100	38	31	17	8.7
31	59	-----	1,030	174	-----	176	-----	538	-----	28	16	-----
TOTAL	1,816	2,191	15,578	12,444	3,977	11,126	4,133	6,582	4,391	1,265	2,026	462.5
MEAN	58.6	73.0	503	401	137	359	138	212	146	40.8	63.4	15.4
MAX	138	104	1,120	1,660	280	1,120	170	1,120	609	165	248	29
MIN	27	56	84	130	95	115	102	60	38	25	16	8.6
CFRM	.237	.296	2.04	1.62	.555	1.45	.559	.838	.591	.165	.265	.062
IN.	.27	.33	2.35	1.87	.60	1.67	.62	.99	.66	.19	.31	.07

CAL YR 1967: TOTAL 65,665 MEAN 180 MAX 1,500 MIN 17 CFRM .729 IN 9.88
WAT YR 1968: TOTAL 65,991.5 MEAN 180 MAX 1,660 MIN 8.6 CFRM .729 IN 9.93

Peak discharge (base, 1,700 cfs).--No peak above base.

JAMES RIVER BASIN

2-0350. James River at Cartersville, Va.

Location--Lat 37°40'15", long 78°05'10", on left bank 200 ft downstream from bridge on State Highway 45 between Pemberton and Cartersville, Cumberland County, 2 miles downstream from Willis River, and at mile 152.4.

Drainage area--6,262 sq mi.

Records available--October 1898 to September 1968. Monthly discharge only for some periods, published in WSP 1303.

Gage--Digital water-stage recorder. Datum of gage is 161.57 ft above mean sea level (levels by Corps of Engineers). Prior to June 4, 1927, wire-weight or chain gage, and June 4, 1927, to June 10, 1966, graphic water-stage recorder at same site and datum.

Average discharge--70 years, 6,920 cfs.

Extremes--Maximum discharge during year, 35,100 cfs Dec. 12 (gage height, 12.81 ft); minimum, 650 cfs Sept. 29, 30 (gage height, 0.36 ft); minimum daily, 659 cfs Sept. 26.

1898-1968: Maximum discharge, 180,000 cfs Sept. 20, 1944 (gage height, 29.6 ft, from floodmark in gage well); minimum, 316 cfs Sept. 13, 14, 1966 (gage height, 0.02 ft); minimum daily, 330 cfs Sept. 14, 1966.

Remarks--Records good. Moderate diurnal fluctuation caused by powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,030	3,690	2,170	7,770	13,400	3,490	6,230	4,940	9,170	1,680	1,340	766
2	2,320	3,320	2,140	6,350	10,900	3,510	6,160	5,060	7,110	1,560	1,040	781
3	2,640	3,300	3,510	5,670	19,200	3,560	5,830	5,790	6,710	2,210	1,700	776
4	2,170	3,270	8,670	5,230	19,100	3,470	5,950	5,470	5,850	3,520	2,730	745
5	1,890	3,360	9,640	5,490	19,500	3,130	6,180	5,280	4,770	2,720	2,340	710
6	1,570	2,770	12,100	6,010	14,400	3,380	6,430	4,580	4,130	1,930	2,240	690
7	1,410	2,600	9,050	7,620	11,730	3,320	4,210	4,330	3,900	2,380	2,170	905
8	1,550	2,470	7,310	7,310	10,000	3,240	230	3,870	3,670	2,180	1,920	1,190
9	1,690	2,370	8,230	6,270	9,750	3,150	1,190	3,700	3,560	1,790	1,640	983
10	1,800	2,140	5,870	5,660	8,150	3,100	4,930	3,410	3,850	1,710	1,240	838
11	2,790	2,170	23,300	5,030	7,070	3,620	5,680	3,170	4,210	1,480	1,100	904
12	2,760	1,970	33,400	5,070	6,380	4,720	5,360	3,230	4,750	1,540	1,170	2,220
13	2,510	1,960	27,100	5,130	5,990	4,820	4,820	3,070	4,790	1,710	1,210	1,610
14	2,370	1,950	16,200	17,400	5,370	20,300	4,590	3,120	4,610	1,610	1,170	1,240
15	2,250	1,660	13,700	24,100	5,360	26,500	4,420	3,450	3,670	2,270	1,390	1,110
16	1,930	1,730	10,300	13,100	4,900	16,300	4,420	3,780	3,540	2,160	1,550	880
17	1,830	1,440	8,300	9,460	4,720	17,100	4,180	3,590	3,080	2,040	1,610	867
18	2,230	2,200	7,340	7,370	4,640	24,700	3,930	3,380	3,200	1,980	1,640	849
19	1,720	1,730	7,650	6,200	4,340	27,500	3,810	3,570	3,290	1,610	1,480	782
20	3,440	1,700	7,510	6,070	4,180	19,500	3,790	3,260	3,090	1,550	2,060	681
21	3,970	1,730	7,270	6,180	4,170	14,500	3,750	3,320	2,810	1,550	2,400	693
22	3,460	1,910	6,910	6,340	3,930	11,900	3,390	3,140	3,350	1,530	1,760	707
23	3,390	2,700	10,520	8,650	3,710	10,400	3,500	2,920	3,040	1,690	1,630	685
24	3,230	1,370	9,150	12,700	3,550	10,100	3,560	2,940	2,490	1,550	1,770	682
25	2,630	1,890	7,790	19,400	3,530	11,000	3,790	3,810	2,420	1,340	1,160	695
26	5,030	2,160	7,460	15,400	3,160	13,300	3,940	2,770	2,320	1,470	920	659
27	4,420	1,990	6,620	12,000	3,640	10,700	3,620	3,180	2,320	1,930	910	686
28	7,290	1,970	6,570	9,680	3,460	9,280	4,040	23,800	1,990	1,420	894	728
29	6,780	1,970	17,600	8,420	3,370	8,240	4,440	15,900	2,010	1,470	875	663
30	5,410	1,770	14,700	8,010	-----	7,070	4,360	14,400	1,850	1,400	807	660
31	4,420	-----	9,810	8,210	-----	6,580	-----	12,000	-----	1,380	809	-----
TOTAL	93,600	57,470	327,630	273,730	228,470	324,860	144,730	167,230	115,460	56,510	46,325	26,405
MEAN	3,019	2,249	10,570	8,830	7,878	10,480	4,824	5,395	3,849	1,823	1,494	880
MAX	7,290	3,690	33,600	24,100	19,900	27,500	6,430	23,800	9,170	3,520	2,730	2,220
MIN	1,410	1,730	2,170	5,030	3,160	3,100	3,390	2,770	1,850	1,340	807	659
CFSM	.48	.36	1.69	1.41	1.26	1.68	.77	.86	.67	.29	.24	.14
IN.	.56	.40	1.77	1.63	1.36	1.94	.86	1.00	.69	.34	.28	.16

CAL VR 1967 TOTAL 2,190,338 MEAN 6,001 MAX 65,500 MIN 765 CFSM .96 IN 13.05
WTR VR 1968 TOTAL 1,872,420 MEAN 5,116 MAX 33,600 MIN 659 CFSM .82 IN 11.16

Peak discharge (base, 40,000 cfs)--No peak above base.

68-97

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0165. Pine Creek at Pine Creek Mills, Va.

Location.--Lat 37°35'52", long 77°49'12", on right bank 75 ft downstream from bridge on State Highway 711, at Pine Creek Mills, Powhatan County, 0.8 mile upstream from mouth, and 6.7 miles northeast of Poughkeepsie.

Drainage area.--23 sq mi, approximately.

Records available.--July 1944 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 156.59 ft above mean sea level, datum of 1929. Prior to Oct. 28, 1953, chain gage or inclined staff gage and crest-stage indicator at same datum 75 ft upstream.

Average discharge.--26 years, 18.5 cfs.

Extremes.--Maximum discharge during year, 191 cfs Jan. 15 (gage height, 2.88 ft); minimum daily, 0.10 cfs Sept. 17-30; minimum gage height, 1.56 ft Sept. 28, 29.
1944-68: Maximum discharge, 3,640 cfs Oct. 21, 1961 (gage height, 8.35 ft); minimum daily, that of Sept. 17-30, 1968; minimum gage height, 1.56 ft Sept. 11, 1954, Sept. 28, 29, 1968.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.3	10	19	12	13	14	8.6	5.2	1.6	2.0	0.70
2	1.6	6.0	6.4	15	14	15	13	6.8	4.2	1.6	2.3	.90
3	1.6	7.9	41	14	22	16	12	6.4	4.2	1.8	10	.80
4	1.4	4.9	25	18	14	10	12	6.8	4.2	2.3	4.6	.60
5	1.4	4.6	12	14	13	9.8	12	6.8	3.9	2.5	3.3	.50
6	1.4	4.2	9.2	9.5	13	9.2	12	5.6	3.6	2.4	2.8	.50
7	2.8	4.2	8.6	9.0	13	8.6	11	4.9	3.3	2.5	2.2	.60
8	3.6	4.2	7.3	8.5	12	7.9	10	4.9	3.3	1.8	13	.40
9	3.3	4.2	7.3	8.2	11	7.9	9.8	4.9	4.2	1.4	5.6	.60
10	4.6	4.2	22	8.1	11	9.2	9.8	4.6	5.6	1.8	3.6	.80
11	5.6	4.6	72	8.0	7.9	21	9.8	4.2	4.6	3.0	2.8	.70
12	3.3	4.6	31	7.9	7.6	58	9.2	4.6	4.2	3.0	2.8	.30
13	3.0	4.6	18	9.2	7.4	131	8.6	4.6	17	3.0	2.2	.20
14	3.0	4.6	13	141	7.0	49	8.6	4.9	6.0	3.3	2.0	.20
15	3.3	4.6	10	131	7.8	28	9.8	10	4.2	2.2	2.5	.20
16	3.0	4.2	8.6	36	7.0	23	9.8	6.8	3.9	1.6	2.2	.20
17	3.0	4.6	7.9	23	6.6	58	8.6	5.6	12	1.4	2.0	.10
18	4.2	4.9	15	19	6.2	56	8.6	4.9	16	1.4	1.6	.10
19	6.4	4.6	21	16	6.0	33	8.6	4.6	6.4	1.4	2.5	.10
20	3.3	4.6	11	15	7.0	25	7.9	4.6	4.6	3.9	2.8	.10
21	3.0	4.6	9.8	14	6.5	22	8.6	3.9	3.9	1.8	2.5	.10
22	3.0	4.6	21	14	6.2	19	7.9	3.9	3.3	2.6	1.6	.10
23	3.0	5.6	102	15	6.0	23	7.3	3.6	3.0	37	1.0	.70
24	3.0	6.4	43	18	6.0	22	9.8	3.9	2.8	7.3	1.0	.10
25	4.2	10	23	14	6.0	16	10	3.3	2.5	4.6	.90	.10
26	7.3	6.8	25	10	4.2	15	7.9	3.3	2.2	3.2	.90	.10
27	4.2	5.6	18	13	6.3	14	9.2	31	3.6	3.9	.90	.10
28	3.6	4.9	35	12	6.4	14	16	46	2.8	3.9	.80	.10
29	3.0	4.6	86	12	9.2	13	9.8	16	2.2	5.6	.80	.10
30	3.3	6.8	35	12	-----	13	9.8	7.9	1.8	3.3	.70	.10
31	3.3	-----	23	12	-----	12	-----	6.0	-----	2.2	.70	-----
TOTAL	102.5	153.5	777.1	675.4	264.3	771.6	301.4	243.9	148.7	121.9	84.40	9.40
MEAN	3.31	5.12	25.1	21.8	9.11	24.9	10.0	7.87	4.96	3.93	2.72	.31
MAX	7.3	10	102	141	22	131	16	46	17	37	13	.90
MIN	1.4	3.3	6.4	7.9	6.0	7.9	7.3	3.3	1.8	1.4	.70	.10
CFSM	.144	.223	1.09	.948	.396	1.08	.435	.342	.216	.171	.118	.013
IN.	.17	.25	1.26	1.09	.43	1.24	.49	.39	.24	.20	.14	.01

CAL YR 1967: TOTAL 4,810.30

MEAN 13.2

MAX 137

MIN .40

CFSM .574

IN 7.79

MAY YR 1968: TOTAL 3,654.10

MEAN 9.98

MAX 141

MIN .10

CFSM .434

IN 5.91

Peak discharge (base, 200 cfs).--No peak above base.

68-98

JAMES RIVER BASIN

2-0370. James River & Kanawha Canal near Richmond, Va.

Location.--Lat 37°33'52", long 77°34'28", on left bank 75 ft downstream from canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Basher Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond, Henrico County.

Records available.--September 1936 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 106.07 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

Average discharge.--32 years, 839 cfs.

Extremes.--Maximum discharge during year, 1,140 cfs Jan. 15 (gage height, 9.13 ft); slight leakage through gates when closed at times during year.
1936-68: Maximum gage height, 19.7 ft Sept. 20, 1944 (discharge not determined, flow of canal merges with James River); no flow at times when head gates were closed.

Remarks.--Records good. Canal diverts from James River 1,200 ft above Basher Dam and discharges into river at several points below gaging station near Richmond. Figures given show flow in canal only; for record of flow of James River near Richmond, see page 100.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	775	836	775	920	960	836	900	868	940	775	745	717
2	805	836	775	900	960	830	900	884	920	760	745	703
3	790	820	805	900	960	830	900	900	920	760	745	703
4	790	820	850	900	960	830	900	900	900	805	775	703
5	790	805	900	884	980	820	900	900	868	724	740	703
6	775	805	960	900	960	820	900	884	852	57	775	703
7	775	790	920	900	960	836	900	868	812	265	775	703
8	760	790	920	920	960	737	900	852	683	790	775	717
9	760	790	900	900	960	67	900	852	836	775	760	731
10	775	790	900	900	960	300	900	836	636	760	745	717
11	775	775	920	884	960	836	900	836	852	760	731	717
12	805	775	900	884	920	884	900	836	868	760	717	717
13	805	775	920	868	900	960	884	836	868	760	717	775
14	790	775	900	1,000	884	960	868	836	884	760	717	745
15	790	775	920	1,000	868	980	868	836	852	760	731	731
16	775	775	920	960	868	960	868	852	836	775	731	731
17	775	775	920	960	868	960	868	852	805	775	745	717
18	775	760	920	960	868	960	852	836	805	775	745	717
19	790	775	920	845	852	980	632	836	805	775	745	717
20	820	760	920	319	852	960	477	836	805	745	775	625
21	836	760	920	920	852	960	836	820	686	745	760	61
22	836	760	920	920	836	960	836	820	519	745	775	286
23	820	775	960	960	836	960	836	820	820	760	717	717
24	820	760	920	960	836	960	852	805	805	775	745	703
25	805	775	900	960	836	960	852	805	790	760	731	689
26	805	775	920	980	820	980	852	805	790	745	745	689
27	820	775	960	960	820	960	852	820	790	760	717	470
28	884	775	920	960	836	960	852	920	790	760	717	61
29	920	775	960	960	836	888	868	960	775	745	717	315
30	884	775	960	960	293	868	960	960	775	745	717	703
31	868	-----	900	960	-----	960	-----	960	-----	745	717	-----
TOTAL	24,993	23,507	28,045	28,064	25,928	26,107	25,421	26,591	24,287	22,401	23,085	18,984
MEAN	806	784	905	905	894	862	834	858	810	722	745	633
MAX	920	836	960	1,000	980	980	900	960	940	805	790	775
MIN	760	760	775	319	820	67	477	805	519	57	717	61

CAL. YR 1967: TOTAL 305,456 MEAN 837 MAX 1,020 MIN 239
 MAY YR 1968: TOTAL 297,615 MEAN 813 MAX 1,000 MIN 57

68-99

JAMES RIVER BASIN

2-0375. James River near Richmond, Va.

Location.--Lat 37°33'47", long 77°32'50", on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 0.5 mile west of city limits of Richmond, Henrico County, 1.7 miles downstream from Roshier Dam, 3.3 miles upstream from Powhite Creek, and at mile 111.7.

Drainage area.--6,737 sq mi.

Records available.--October 1934 to September 1968. Gage-height records collected in vicinity of Mayo's Bridge, at mile 104.6, 1876-1956, and at mile 103.7, since 1957, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Control is Williams Island Dam which divert flow for City of Richmond water supply. Datum of gage is 98.82 ft above mean sea level, datum of 1929.

Average discharge.--34 years, 7,151 cfs (includes flow in James River & Kanawha Canal).

Extremes.--Maximum discharge during year, 34,300 cfs Dec. 12 (gage height, 11.24 ft); minimum daily, about 10 cfs Sept. 30. 1934-68: Maximum discharge, 175,000 cfs Mar. 19, 1936 (gage height, 23.42 ft); minimum daily, about 10 cfs Sept. 8-15, 1966, Sept. 30, 1968; minimum daily discharge of James River and James River & Kanawha Canal combined, 370 cfs Sept. 13, 1966. Probable minimum daily discharge, since 1899, of James River and James River & Kanawha Canal combined, about 350 cfs in October 1930. (Minimum daily of record for James River at Cartersville, 330 cfs Sept. 14, 1966.)

Remarks.--Records good. City of Richmond takes from 40 to 90 cfs for water supply from river below gage except during periods of low flow when supply is obtained from James River & Kanawha Canal. Flow regulated by powerplants above station. Extremes and records of daily discharge include diversion by City of Richmond, but do not include flow in James River & Kanawha Canal which diverts around station. For canal records, see page 99.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	1,300	3,320	1,400	8,380	8,760	2,900	5,850	3,820	9,130	1,120	810	113	
2	2,210	3,150	1,580	6,480	16,900	3,100	5,530	4,320	7,150	950	650	86	
3	1,690	2,750	2,020	5,400	18,900	3,320	5,400	4,450	5,850	850	530	68	
4	1,900	2,750	5,130	5,120	17,900	3,320	5,120	4,840	5,550	1,830	1,140	122	
5	1,530	2,580	8,200	4,840	18,400	3,150	5,260	4,580	4,580	2,450	1,630	113	
6	1,190	2,210	10,900	4,980	15,200	3,000	5,530	4,200	3,820	2,580	1,560	104	
7	970	2,090	9,510	5,850	11,800	3,320	5,700	3,820	3,450	1,950	1,400	68	
8	810	1,080	7,490	6,980	9,700	3,100	5,400	3,580	3,450	1,580	1,510	122	
9	890	1,740	5,850	6,000	8,570	3,580	5,550	3,200	2,820	1,280	1,230	490	
10	1,050	1,670	5,400	5,400	7,840	3,580	5,400	2,950	2,900	990	910	398	
11	1,280	1,420	12,600	4,980	6,980	3,100	5,120	2,720	3,120	970	610	275	
12	2,350	1,560	32,300	4,710	5,700	4,200	4,840	2,520	3,580	790	450	275	
13	2,020	1,300	30,300	4,320	5,260	12,500	4,450	2,500	3,950	850	450	1,420	
14	1,810	1,330	21,000	12,200	4,710	19,900	4,200	2,430	4,200	950	550	810	
15	1,740	1,260	14,500	28,400	4,450	26,000	3,950	2,620	3,320	890	670	530	
16	1,560	1,280	12,200	18,100	4,200	19,800	3,820	3,000	2,900	1,370	730	415	
17	1,330	1,230	8,570	10,400	4,080	15,000	3,820	2,950	2,520	1,350	790	208	
18	1,280	1,160	7,150	8,020	3,950	21,800	3,580	2,750	2,300	1,190	870	154	
19	1,760	1,280	6,810	6,160	3,820	27,800	3,320	2,750	2,350	1,140	950	180	
20	2,700	1,050	7,150	6,160	3,580	22,200	3,820	2,580	2,600	850	1,370	167	
21	2,950	1,120	6,480	5,550	3,450	15,900	3,200	2,500	2,210	770	1,560	650	
22	3,150	1,070	6,160	5,550	3,320	12,600	3,020	2,500	2,700	750	1,740	590	
23	2,600	1,300	9,600	6,640	3,150	10,500	2,850	2,160	2,400	930	970	50	
24	2,620	1,070	11,800	9,510	3,000	9,320	3,020	2,090	2,090	1,580	850	70	
25	2,330	1,280	8,380	13,100	2,900	9,130	3,080	2,070	1,740	1,120	590	15	
26	2,280	1,300	7,320	15,000	2,750	12,200	3,320	1,900	1,650	750	615	20	
27	2,700	1,530	6,640	12,600	2,600	11,300	3,200	2,210	1,560	890	221	68	
28	4,900	1,350	6,000	9,700	2,980	9,130	3,150	17,200	1,510	1,070	180	650	
29	6,480	1,230	12,000	8,200	2,920	8,200	3,700	20,200	1,160	730	180	613	
30	5,260	1,280	19,200	7,320	-----	7,490	3,820	13,300	1,230	730	194	70	
31	4,200	-----	11,800	8,940	-----	6,160	-----	12,600	-----	650	113	-----	
TOTAL	70,840	49,540	315,440	264,990	207,770	316,600	1,8,060	145,510	98,190	35,900	26,023	8,804	
MEAN	2,285	1,651	10,175	8,548	7,164	10,213	4,269	4,694	3,273	1,158	839	293	
MAX	6,480	3,320	32,300	28,400	18,900	27,800	5,850	20,200	9,130	2,580	1,870	1,420	
MIN	810	1,050	1,400	4,320	2,600	2,900	2,850	1,900	1,160	650	113	10	
(f)	806	784	905	905	894	842	854	858	810	722	745	633	
MEAN#	3,091	2,435	11,080	9,453	8,058	11,055	5,123	5,552	4,083	1,880	1,584	926	
CFSM#	.457	.360	1.64	1.40	1.19	1.64	.758	.822	.604	.278	.234	.137	
IN#	.33	.40	1.89	1.61	1.28	1.89	.85	.95	.67	.32	.27	.15	
CAL YR 1967: TOTAL	2,020,276	MEAN	5,535	MAX	67,600	MIN	104	MEAN#	6,372	CFSM#	.943	IN#	12.80
WAT YR 1968: TOTAL	1,667,672	MEAN	4,556	MAX	32,300	MIN	10	MEAN#	5,369	CFSM#	.795	IN#	10.81

Peak discharge (base, 50,000 cfs)--No peak above base.

Diversion, in cubic feet per second, by James River & Kanawha Canal.
Adjusted for diversion.

JAMES RIVER BASIN

2-0380. Falling Creek near Chesterfield, Va.

Location.--Lat 37°26'37", long 77°31'21", on left bank at upstream side of bridge on State Highway 651, 0.8 mile downstream from Licking Creek, 2.8 miles upstream from Pocahontas Creek, and 4.7 miles northwest of Chesterfield, Chesterfield County.

Drainage area.--32.6 sq mi.

Records available.--October 1955 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 126.39 ft above mean sea level, datum of 1929. Prior to Feb. 6, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--13 years, 30.8 cfs.

Extremes.--Maximum discharge during year, 387 cfs Jan. 14 (gage height, 6.99 ft); minimum, 0.01 cfs Sept. 20 (gage height, 1.55 ft). 1955-68; Maximum discharge, 2,510 cfs Sept. 12, 1960 (gage height, 12.67 ft); minimum, that of Sept. 20, 1968.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.2	4.3	28	17	26	25	17	16	2.2	1.0	.24
2	1.2	2.5	4.0	22	18	26	25	14	12	2.0	1.3	.29
3	1.2	2.3	13	20	25	32	22	9.3	16	2.0	1.6	.24
4	1.2	1.4	14	24	22	26	22	11	14	2.2	1.7	.12
5	1.1	1.4	8.7	21	19	22	24	10	8.0	2.2	1.7	.11
6	1.0	1.4	5.8	17	17	21	38	10	5.7	2.0	1.2	.22
7	1.1	1.4	4.9	16	17	19	27	8.8	4.4	2.0	1.1	.29
8	1.1	1.4	4.2	15	14	18	24	8.0	4.0	1.9	1.2	.12
9	1.3	1.4	3.7	14	16	18	22	7.5	3.7	1.9	1.1	.08
10	1.7	1.4	9.8	13	16	19	20	7.0	3.8	1.9	1.1	.11
11	1.4	1.4	44	12	14	34	25	6.7	4.9	2.1	1.8	.20
12	1.2	1.4	29	12	14	110	25	6.9	4.8	2.2	1.2	.16
13	1.2	1.4	18	16	12	212	21	6.5	6.9	2.1	1.0	.05
14	1.2	1.4	12	292	12	114	19	6.3	5.6	1.9	.99	.03
15	1.1	1.4	9.5	171	13	66	19	12	4.1	1.7	1.2	.03
16	1.1	1.4	7.7	76	13	51	20	11	3.6	1.6	1.1	.02
17	1.1	1.4	6.5	48	14	67	18	8.8	4.2	1.6	1.0	.03
18	1.2	1.5	7.9	38	11	73	16	7.0	8.4	1.5	.89	.03
19	1.2	1.5	12	33	11	55	17	6.2	8.3	1.5	1.1	.05
20	1.0	1.3	10	30	13	44	18	6.4	5.4	1.7	6.5	.03
21	1.1	1.4	8.2	28	12	39	18	5.7	4.0	1.3	1.6	.04
22	1.2	1.5	13	25	11	35	18	4.9	3.5	1.1	6.9	.04
23	1.1	1.6	81	24	9.6	36	17	4.5	3.3	1.3	24	.03
24	1.2	1.8	54	24	10	33	22	4.5	3.2	1.3	19	.03
25	1.4	2.9	31	22	10	30	37	4.0	3.0	1.2	8.7	.02
26	2.0	2.0	28	20	9.8	27	22	3.9	2.7	1.3	1.7	.02
27	1.4	1.8	26	20	9.6	26	17	16	2.4	1.4	.64	.02
28	1.4	1.4	44	20	10	24	21	81	2.4	1.4	.40	.02
29	1.3	1.7	101	19	15	23	21	56	2.3	1.2	.32	.04
30	1.2	2.5	56	18	-----	22	20	31	2.3	1.1	.30	.05
31	1.2	-----	38	17	-----	22	-----	21	-----	1.1	.23	-----
TOTAL	39.0	48.0	707.2	1,155	407.0	1,370	660	412.9	173.1	52.1	93.55	2.76
MEAN	1.26	1.60	22.8	37.3	14.0	44.2	22.0	13.3	5.77	1.68	3.02	.092
MAX	2.0	2.9	101	292	25	212	38	81	16	2.2	24	.29
MIN	1.0	1.2	3.7	12	9.6	18	16	3.9	2.3	1.1	.23	.02
CFSM	.04	.05	.70	1.14	.43	1.35	.67	.41	.18	.05	.09	.003
IN _s	.04	.05	.80	1.31	.46	1.55	.75	.47	.20	.06	.11	.003

CAL YR 1967 TOTAL 6,708.9

MEAN 18.4

MAX 160

MIN 1.0

CFSM .96

IN 7.61

WTR YR 1968 TOTAL 5,120.61

MEAN 14.0

MAX 292

MIN .02

CFSM .43

IN 5.81

Peak discharge (base, 350 cfs).--Jan. 14 (1030) 387 cfs (6.99 ft).

68-101

JAMES RIVER BASIN

2-0388.5, Holiday Creek near Andersonville, Va.
(hydrologic bench-mark station)

Location.--Lat 37°24'55", long 78°38'10", on right bank 350 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville, Buckingham County.

Drainage area.--8.53 sq mi.

Records available.--April 1966 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 475 ft (from topographic map).

Extremes.--Maximum discharge during year, 252 cfs Dec. 10 (gage height, 3.14 ft); minimum, 0.68 cfs Sept. 23, 24 (gage height, 0.88 ft).

1966-68: Maximum discharge, 377 cfs June 23, 1967; minimum, 0.10 cfs Sept. 11, 12, 1966; minimum gage height, 0.75 ft July 28, 1966.

Remarks.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.9	5.4	7.7	6.3	5.7	6.3	6.7	5.0	2.1	1.6	1.1
2	2.2	4.4	4.2	7.1	8.0	6.2	5.6	5.9	4.7	2.1	1.7	1.2
3	2.2	4.3	3.6	6.6	8.6	6.2	6.0	5.4	5.0	5.8	7.8	1.2
4	2.1	3.5	8.6	6.4	7.0	5.2	6.3	5.0	4.3	3.9	4.5	1.1
5	2.1	3.2	5.4	6.2	6.0	5.1	6.8	4.8	3.9	3.0	2.9	1.1
6	2.0	3.1	4.7	5.8	6.2	5.0	6.0	4.4	3.7	2.8	2.3	2.4
7	2.1	3.1	4.3	5.8	6.0	4.8	5.8	4.3	3.6	2.0	2.0	1.5
8	2.2	3.1	4.1	5.8	6.0	4.8	5.8	4.3	3.4	2.4	1.6	1.2
9	3.0	3.1	3.8	5.8	5.8	4.9	5.7	4.2	6.2	4.3	1.7	1.1
10	5.0	3.1	7.4	5.8	5.7	5.5	5.6	4.1	5.0	2.4	1.7	1.2
11	6.3	3.3	5.9	6.0	5.6	5.3	5.7	4.1	9.3	2.4	2.5	1.8
12	5.0	3.3	3.6	13	5.4	3.4	5.4	6.5	5.3	3.2	2.0	1.3
13	3.5	3.2	11	21	5.4	3.6	5.2	5.0	4.3	3.1	1.7	1.2
14	3.0	3.1	7.3	7.4	5.4	12	5.2	7.3	3.7	2.9	2.6	1.1
15	2.4	3.0	6.1	21	5.4	8.9	5.9	8.7	3.4	2.5	3.0	.98
16	2.4	3.2	5.3	11	5.2	8.0	5.3	6.0	3.2	2.2	2.1	.93
17	3.5	3.3	4.9	9.4	5.2	21	5.1	5.0	4.4	2.1	1.8	.94
18	5.2	3.1	12	8.6	5.2	12	5.1	4.7	4.6	2.0	2.3	.95
19	6.0	3.0	9.8	8.4	5.2	9.0	5.3	4.3	3.8	1.8	4.3	.95
20	5.2	3.1	7.1	8.4	5.2	7.9	5.2	3.8	3.3	1.7	2.5	.90
21	3.5	3.1	6.1	8.1	5.2	7.4	5.2	3.6	3.0	1.6	1.9	.86
22	2.7	3.7	18	7.6	5.2	6.9	5.0	3.4	2.6	1.5	1.6	.78
23	2.4	3.6	45	7.6	5.2	9.7	5.0	3.4	2.9	1.5	1.5	.74
24	2.4	5.6	12	8.6	7.4	7.8	8.2	3.5	2.7	1.4	1.4	.74
25	5.0	3.8	8.5	7.5	7.4	7.0	7.6	3.2	2.6	1.6	1.4	.76
26	4.6	3.3	7.2	7.0	7.4	6.6	5.8	3.4	2.5	3.4	1.3	.89
27	3.4	3.1	6.2	6.9	5.8	6.4	7.5	130	2.6	2.6	1.2	1.0
28	3.0	3.0	35	6.5	5.2	8.3	8.5	30	2.3	2.4	1.2	.91
29	2.9	3.0	35	6.7	5.5	6.3	7.1	11	2.4	2.0	1.2	.87
30	2.8	6.1	12	6.6	-----	6.1	6.7	7.0	2.2	1.8	1.2	.87
31	2.9	-----	5.1	6.5	-----	6.0	-----	5.8	-----	1.7	1.1	-----
TOTAL	103.3	103.7	507.1	323.8	173.7	284.0	181.9	308.8	119.2	74.8	67.8	32.47
MEAN	3.33	3.46	16.4	10.4	5.99	9.16	6.06	9.56	3.97	2.41	2.19	1.00
MAX	6.3	6.1	7.4	7.4	8.6	36	6.7	130	9.3	5.8	7.8	2.4
MIN	2.0	2.9	3.8	5.8	5.2	4.8	5.0	3.2	2.2	1.4	1.1	.74
CFSM	.39	.41	1.92	1.22	.70	1.07	.71	1.17	.47	.28	.26	.13
IN.	.45	.45	2.21	1.41	.76	1.24	.79	1.35	.52	.33	.30	.14

CAL YR 1967:	TOTAL	2,289.0	MEAN	6.27	MAX	104	MIN	1.4	CFSM	.74	IN	9.98
WTR YR 1968:	TOTAL	2,280.57	MEAN	6.23	MAX	130	MIN	.76	CFSM	.73	IN	9.94

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
12-10	2000	3.14	252	5-27	1730	3.08	247
1-14	0115	2.70	182				

68-102

JAMES RIVER BASIN

2-0190. Buffalo Creek near Hampden Sydney, Va.

Location.--Lat 37°15'25", long 78°29'10", on left bank 100 ft above bridge on State Highway 658, 0.8 mile upstream from Lockat Creek, 2.6 miles northwest of Hampden Sydney, Prince Edward County, and 5.2 miles southwest of Farmville.

Drainage area.--70 sq mi, approximately.

Records available.--August 1946 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 339.19 ft above mean sea level, datum of 1929 (levels by Virginia Department of Highways). Prior to Aug. 19, 1953, staff gage at same site and datum.

Average discharge.--22 years, 60.5 cfs.

Extremes.--Maximum discharge during year, 480 cfs Mar. 17 (gage height, 5.72 ft); minimum, 4.3 cfs Sept. 29, 30; minimum gage height, 0.93 ft Sept. 25, 26, 29, 30.
1946-68: Maximum discharge, 6,440 cfs Aug. 18, 1955 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs by logarithmic plotting; minimum, that of Sept. 29, 30, 1968; minimum gage height, 0.83 ft July 27-30, 1966.
Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	33	83	43	36	42	30	42	20	18	7.4
2	15	25	30	66	46	36	39	29	36	19	18	7.6
3	15	28	94	58	62	35	38	27	62	19	21	7.4
4	15	25	72	61	53	33	39	26	52	20	31	6.9
5	15	24	47	55	46	32	40	28	31	20	37	6.9
6	14	22	35	48	43	31	38	26	33	19	29	7.1
7	15	22	30	50	42	31	36	26	30	19	23	7.1
8	15	21	27	47	41	31	36	25	30	19	21	6.6
9	16	22	23	48	40	31	35	23	30	18	19	6.4
10	20	21	76	46	38	33	34	24	31	19	19	10
11	20	21	218	38	37	36	35	24	30	21	21	14
12	18	21	134	42	37	122	34	23	30	21	21	11
13	18	21	90	58	35	231	33	23	28	31	20	9.8
14	17	21	66	340	35	125	32	28	26	32	35	8.7
15	17	21	55	210	31	84	34	39	25	25	60	8.2
16	17	21	47	100	30	69	32	29	24	22	26	7.6
17	17	21	41	70	33	398	32	30	35	21	17	7.4
18	18	25	50	50	31	274	32	28	43	20	14	7.1
19	29	21	61	50	32	134	30	26	37	19	16	6.9
20	23	21	50	50	33	58	30	25	32	18	13	6.
21	21	22	64	51	31	73	30	24	28	17	11	6.1
22	19	22	61	52	31	60	29	23	26	16	11	5.9
23	19	24	322	53	35	80	29	23	25	16	11	5.4
24	18	23	189	53	31	82	34	23	24	16	10	5.6
25	20	34	114	50	31	64	35	22	23	17	9.5	5.6
26	25	31	95	48	30	54	31	22	23	21	8.7	4.8
27	22	28	78	47	30	50	30	154	26	23	8.4	5.0
28	21	26	152	46	30	46	30	223	23	23	8.2	4.8
29	20	24	324	45	32	44	29	124	22	21	7.6	4.3
30	19	29	172	44	-----	42	31	76	21	20	7.4	4.3
31	18	-----	110	44	-----	40	-----	53	-----	19	7.4	-----
TOTAL	591	707	2,322	2,103	1,069	2,497	1,009	1,314	937	640	579.2	211.1
MEAN	19.1	23.6	94.3	67.8	36.9	80.5	33.6	42.4	31.2	20.6	18.7	7.04
MAX	38	34	324	340	62	398	42	223	62	32	60	14
MIN	14	18	23	38	30	31	29	22	21	16	7.4	4.3
CFSM	.273	.337	1.35	.969	.527	1.13	.480	.606	.446	.294	.267	.101
IN.	.31	.38	1.56	1.12	.57	1.33	.54	.70	.50	.34	.31	.11
CAL YR 1967:	TOTAL 15,977		MEAN 43.8	MAX 324	MIN 14	CFSM .626	IN 8.30					
MAT YR 1968:	TOTAL 14,579.3		MEAN 39.8	MAX 398	MIN 4.3	CFSM .569	IN 7.77					

Peak discharge (base, 500 cfs).--No peak above base.

68-103

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0395. Appomattox River at Farmville, Va.

Location.--Lat 37°18'23", long 78°23'20", on left bank 4 ft downstream from bridge on State Highway 45 at north town limits of Farmville, Prince Edward County, and 1.1 miles downstream from Buffalo Creek.

Drainage area.--306 sq mi.

Records available.--March 1926 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 281.93 ft above mean sea level, datum of 1929. Prior to Nov. 29, 1928, chain gage, and Nov. 29, 1928, to May 4, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--42 years, 270 cfs.

Extremes.--Maximum discharge during year, 2,010 cfs Jan. 15 (gage height, 12.89 ft); minimum, 7.4 cfs Sept. 26 (gage height, 3.14 ft). 1926-68: Maximum discharge, 21,000 cfs Aug. 15, 1940 (gage height, 23.60 ft), from rating curve extended above 12,000 cfs by logarithmic plotting; minimum, 3.8 cfs Sept. 25, 1941; minimum daily, 7.8 cfs Sept. 26, 1968.

Remarks.--Records good. Diurnal fluctuation at low flow caused by Prince Edward Mill, 0.2 mile upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	61	114	310	162	153	147	147	179	49	43	15
2	42	73	114	258	167	150	141	129	149	93	43	16
3	40	78	263	226	241	153	140	117	151	52	92	15
4	39	70	514	255	218	146	146	110	159	71	130	14
5	40	77	226	294	184	139	150	108	135	74	90	15
6	37	66	155	246	169	133	146	103	117	63	90	16
7	36	64	127	250	171	118	136	96	106	67	70	17
8	42	62	113	204	173	114	133	93	111	52	57	23
9	47	61	103	190	165	114	133	91	211	68	48	19
10	56	62	209	170	160	120	129	91	713	47	44	17
11	122	61	1,180	175	134	129	131	89	222	47	50	43
12	62	61	1,090	190	133	325	133	92	371	61	52	36
13	57	61	536	203	162	1,020	129	114	157	72	48	34
14	52	62	292	1,260	162	608	124	113	115	127	46	26
15	50	60	224	1,675	154	322	128	163	94	91	92	21
16	50	68	187	647	154	261	127	167	88	67	121	18
17	46	57	166	377	149	1,700	117	133	194	59	72	16
18	77	61	178	306	135	1,040	117	117	509	52	54	15
19	150	60	271	284	112	523	114	107	224	47	54	14
20	53	59	225	269	144	323	111	98	150	56	74	13
21	56	59	193	269	139	262	111	90	118	48	56	13
22	60	56	221	253	111	226	109	95	100	38	46	12
23	56	64	1,290	241	126	240	107	82	93	34	36	11
24	55	71	1,147	246	147	287	117	82	89	31	30	9.5
25	59	70	463	217	129	234	139	81	82	30	27	8.6
26	68	110	316	170	122	207	137	79	79	54	23	7.8
27	95	10	273	182	119	185	116	36A	87	84	19	6.6
28	72	74	397	181	174	172	124	1,590	75	78	17	8.9
29	65	44	1,520	172	134	157	128	820	169	68	16	9.4
30	62	76	1,030	168	-----	149	137	324	63	55	14	9.5
31	60	-----	437	166	-----	136	-----	232	-----	48	14	-----
TOTAL	1,945	2,062	13,573	10,052	4,193	9,341	3,851	6,114	5,003	1,827	1,693	501.3
MEAN	62.7	66.7	438	324	151	301	128	197	167	58.9	54.6	16.7
MAX	150	110	1,520	1,670	241	1,200	150	1,590	713	127	138	43
MIN	36	57	103	166	111	114	107	79	63	30	14	7.8
CFSM	.21	.22	1.43	1.06	.50	.98	.42	.64	.54	.19	.18	.05
IN.	.24	.25	1.65	1.22	.53	1.14	.47	.74	.61	.22	.21	.06

CUL YR 1967 TOTAL 63,217 MEAN 173 MAX 1,520 MIN 36 CFSM .57 IN 7.68
WTR YR 1968 TOTAL 60,355.3 MEAN 165 MAX 1,670 MIN 7.8 CFSM .54 IN 7.34

Peak discharge (base, 3,500 cfs).--No peak above base.

68-104

JAMES RIVER BASIN

2-0400. Appomattox River at Mattoax, Va.

Location.--Lat 37°25'17", long 77°51'33", on right bank 75 ft upstream from Southern Railway bridge at Mattoax, Amelia County, 0.3 mile upstream from Skinquater Creek, and 3.7 miles upstream from Flat Creek.

Drainage area.--729 sq mi.

Records available.--August 1900 to December 1905, March 1926 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. August 1900 to December 1905, chain gage at same site, different datum. March 1926 to October 1936, chain gage at same site and datum.

Average discharge.--47 years, 683 cfs.

Extremes.--Maximum discharge during year, 3,650 cfs Jan. 17 (gage height, 17.50 ft); minimum, 18 cfs Sept. 30 (gage height, 4.91 ft). 1900-05, 1926-68: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

Remarks.--Records good.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	117	188	1,450	420	324	384	258	600	150	68	37
2	91	126	208	898	420	372	384	266	432	139	66	36
3	84	155	324	758	509	408	372	250	360	129	109	35
4	76	195	758	678	600	384	348	229	522	124	97	34
5	72	188	954	680	374	360	348	215	678	125	208	33
6	69	162	522	650	483	324	348	208	384	143	160	33
7	70	142	348	600	432	304	348	202	294	142	134	33
8	73	132	276	550	408	285	324	188	250	126	208	31
9	71	128	250	480	420	266	314	181	258	119	137	29
10	75	126	264	450	396	266	304	174	316	115	86	33
11	102	126	1,420	480	372	324	294	168	2,190	116	67	41
12	120	128	2,160	555	304	689	285	168	2,700	114	82	38
13	167	123	2,070	750	276	2,430	304	174	1,940	136	114	42
14	126	126	1,090	2,920	280	2,660	294	188	600	181	100	45
15	100	124	678	3,500	300	2,320	285	250	396	168	108	40
16	91	128	522	3,610	300	954	304	294	314	188	263	35
17	86	132	420	3,610	270	1,010	294	324	301	130	239	32
18	92	132	384	1,670	250	2,470	266	258	678	104	143	29
19	109	130	574	898	240	2,660	250	215	1,210	92	102	27
20	158	132	678	814	230	1,390	250	202	652	94	196	28
21	195	132	561	750	240	898	243	175	408	80	236	26
22	142	136	496	704	250	758	236	160	314	82	142	24
23	116	139	1,950	632	240	652	236	152	258	364	97	24
24	105	143	2,770	639	243	678	236	150	229	162	78	24
25	106	168	2,690	626	258	758	266	142	208	71	66	24
26	128	195	1,730	548	276	626	304	138	195	57	39	23
27	132	208	1,010	470	258	535	285	277	195	62	54	22
28	152	195	926	470	258	485	285	2,020	195	85	48	22
29	151	168	2,210	496	276	445	266	2,580	195	111	42	20
30	130	164	2,660	458	-----	408	258	2,770	165	99	41	19
31	120	-----	2,740	432	-----	396	-----	1,290	-----	80	38	-----
TOTAL	3,395	4,402	14,011	32,186	9,783	26,039	8,915	14,266	17,637	3,888	1,578	919
MEAN	110	147	1,097	1,038	317	868	297	460	588	125	115	30.6
MAX	195	208	2,890	3,610	600	2,660	384	2,770	2,700	364	263	45
MIN	69	117	188	432	230	266	236	138	165	57	38	19
CFSM	.151	.202	1.50	1.42	.462	1.19	.407	.631	.807	.171	.158	.042
IN.	.17	.23	1.73	1.64	.50	1.37	.45	.73	.90	.20	.18	.05
CAL YR 1967: TOTAL	165,279			MEAN 453	MAX 2,890	MIN 55	CFSM .621	IN 8.43				
WAT YR 1968: TOTAL	159,819			MEAN 437	MAX 3,610	MIN 19	CFSM .599	IN 8.15				

Peak discharge (base, 4,000 cfs).--No peak above base.

68-105

JAMES RIVER BASIN

2-0410. Deep Creek near Mannboro, Va.

Location.--Lat 37°18'59", long 77°52'22", on left bank 300 ft upstream from bridge on State Highway 133, 0.9 mile upstream from Swathouse Creek, 3.4 miles northwest of Mannboro, Amelia County, and 7.5 miles southeast of Amelia.

Drainage area.--156 sq mi.

Records available.--September 1946 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 2, 1949, staff gage at same site and datum.

Average discharge.--22 years, 128 cfs.

Extremes.--Maximum discharge during year, 2,040 cfs Jan. 15 (gage height, 8.34 ft, from recorded range in stage); minimum daily, 0.70 cfs Sept. 30; minimum gage height, 0.39 ft Sept. 23. 1946-68: Maximum discharge, 7,140 cfs Sept. 25, 1947 (gage height, 13.1 ft, from floodmarks); minimum daily, that of Sept. 30, 1968; minimum gage height, 0.29 ft Aug. 9-12, 1957. Flood in August 1940 reached a stage of 14.8 ft (discharge, 10,000 cfs, from rating curve extended above 3,800 cfs by logarithmic plotting), from information by local resident.

Remarks.--Records good.

Operation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	22	40	136	63	79	70	50	86	5.3	12	3.5
2	9.8	28	43	108	63	90	74	46	67	5.1	11	3.0
3	10	41	58	92	90	97	67	42	170	4.5	18	2.7
4	9.4	41	108	90	90	92	65	37	260	4.3	37	2.6
5	7.8	33	90	80	75	77	68	37	109	5.3	31	2.5
6	7.8	27	53	75	66	68	111	42	63	6.7	26	2.4
7	7.0	24	41	70	83	62	104	40	46	4.7	19	2.3
8	7.0	21	34	65	60	56	82	34	39	5.1	18	2.4
9	8.2	20	30	60	58	53	72	31	52	4.3	28	2.9
10	9.6	20	32	64	56	56	66	29	63	5.1	31	2.6
11	13	20	195	67	49	64	63	27	123	5.5	32	2.8
12	14	21	300	100	48	161	62	27	88	18	40	3.1
13	13	28	186	300	50	630	58	27	77	21	45	3.4
14	11	20	108	900	48	877	54	27	53	20	36	3.4
15	11	18	78	1,500	46	271	54	70	37	20	100	2.8
16	13	18	63	300	46	160	60	77	30	14	104	2.4
17	13	18	55	180	45	176	54	55	28	13	62	2.2
18	13	19	54	156	44	385	50	39	50	12	36	2.2
19	25	19	75	131	42	352	47	34	66	12	38	2.4
20	27	20	79	113	45	190	46	32	51	12	70	1.9
21	22	18	67	102	42	144	45	28	34	7.3	68	1.7
22	19	21	63	94	40	121	46	24	27	6.7	29	1.5
23	17	24	268	86	39	111	42	22	24	8.8	19	1.3
24	17	28	470	83	39	118	50	21	19	11	13	1.3
25	19	43	268	76	41	104	104	23	16	12	12	1.3
26	24	48	151	67	41	89	81	18	15	14	9.6	1.2
27	26	43	131	79	41	81	62	118	12	26	7.3	1.3
28	27	36	144	73	41	77	58	330	10	26	5.8	1.1
29	27	29	397	70	48	74	53	225	8.5	31	4.5	.90
30	23	27	539	67	-----	71	52	308	8.5	23	3.9	.70
31	21	-----	224	65	-----	68	-----	136	-----	17	3.7	-----
TOTAL	480.4	793	4,446	5,649	1,519	5,074	1,920	2,056	1,732.0	380.7	971.8	65.80
MEAN	15.5	26.5	143	182	52.4	164	64.0	66.3	57.7	12.3	31.3	2.19
MAX	27	48	539	1,500	90	877	111	330	260	31	104	3.5
MIN	7.0	18	30	60	39	53	42	18	6.5	4.3	3.7	.70
CFSM	.099	.170	.917	1.17	.336	1.05	.410	.425	.370	.079	.201	.014
IN.	.11	.19	1.06	1.35	.36	1.21	.46	.49	.41	.09	.23	.02

CAL YR 1967: TOTAL 29,220.3 MEAN 80.1 MAX 950 MIN 5.1 CFSM .513 IN 6.96
 MAY YR 1968: TOTAL 25,089.70 MEAN 68.6 MAX 1,300 MIN .70 CFSM .440 IN 5.98

Peak discharge (base, 1,200 cfs).--Jan. 15 (unknown; 2,040 cfs (8.34 ft).

68-106

REPRODUCIBILITY OF THE
 ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0425. Chickahominy River near Providence Forge, Va.

Location.--Lat 37°26'10", long 77°03'40", on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, New Kent County, and 1.7 miles downstream from Schminnow Creek.

Drainage area.--249 sq mi

Records available.--January 1942 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 6.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 14, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--26 years, 254 cfs.

Extremes.--Maximum discharge during year, 1,040 cfs Jan. 20 (gage height, 8.63 ft); minimum, 1.8 cfs Sept. 5, 6 (gage height, 1.54 ft). 1942-68: Maximum discharge, 7,710 cfs Aug. 15, 1955 (gage height, 11.67 ft); minimum, that of Sept. 5, 6, 1968; minimum gage height, 1.53 ft Sept. 13, 1965.

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	21	66	422	179	112	175	201	180	14	12	3.3
2	13	22	65	390	173	142	174	180	190	12	10	3.0
3	14	31	80	397	214	181	165	170	222	9.9	13	2.7
4	15	35	116	417	224	192	164	147	224	10	43	2.4
5	16	42	122	401	219	208	169	124	170	10	67	2.0
6	16	41	150	370	206	214	216	120	109	9.2	79	2.5
7	15	39	161	320	197	211	229	99	67	9.0	83	5.4
8	13	39	154	250	183	204	239	85	47	7.9	87	15
9	14	39	149	220	170	193	222	75	40	8.2	58	22
10	16	37	134	210	150	173	190	65	43	10	58	12
11	20	35	191	200	140	168	166	59	47	9.9	41	8.8
12	23	33	237	190	125	198	153	53	55	9.9	29	8.2
13	29	32	298	190	117	346	159	47	77	10	20	17
14	26	30	343	262	102	446	149	45	169	10	18	11
15	25	29	363	378	108	612	142	47	221	11	31	8.3
16	23	27	367	461	99	724	142	51	154	10	30	6.3
17	21	26	351	600	111	818	135	56	94	11	20	4.4
18	19	26	310	800	109	959	125	56	152	9.6	14	4.4
19	18	26	257	960	107	923	114	60	141	13	12	4.2
20	17	27	189	1,000	101	850	105	60	144	12	11	4.4
21	16	28	146	779	98	711	102	57	120	18	12	4.6
22	15	28	136	586	89	590	99	56	99	27	14	5.2
23	16	29	183	461	86	538	94	56	76	22	18	5.0
24	16	37	230	359	85	492	100	54	47	20	25	4.6
25	15	47	267	275	84	427	171	50	33	16	31	4.4
26	21	51	302	210	82	356	178	43	25	16	18	6.6
27	21	55	316	200	80	290	180	43	20	19	11	6.2
28	24	59	363	209	79	247	174	100	18	11	8.2	6.0
29	22	58	469	204	85	220	182	135	16	11	6.5	5.8
30	20	57	484	205	-----	200	208	177	14	15	5.1	5.6
31	20	-----	454	193	-----	182	-----	192	-----	13	4.0	-----
TOTAL	573	1,046	7,453	12,119	3,796	12,127	4,815	2,762	3,014	388.6	888.8	201.7
MEAN	18.5	34.2	240	391	131	391	161	89.1	100	12.5	28.7	6.72
MAX	29	59	484	1,000	224	959	239	201	224	27	87	22
MIN	13	21	65	190	79	112	94	43	14	7.9	4.0	3.0
CFSM	.07	.15	.97	1.57	.53	1.57	.84	.36	.40	.05	.12	.03
IN.	.09	.16	1.11	1.81	.57	1.81	.72	.41	.45	.06	.13	.03
CAL YR 1967 TOTAL	50,119											
WTR YR 1968 TOTAL	49,224.1											
MEAN 137												
MEAN 134												
MAX 596												
MIN 12												
MIN 2.0												
CFSM .55												
CFSM .54												
IN 7.49												
IN 7.35												

68-107

DISMAL SWAMP BASIN

2-0430. Lake Drummond in Dismal Swamp, Va.

Location.--Lat 36°35'40", long 76°26'20", on left bank in outlet canal, in Chesapeake, 200 ft upstream from dam and gates, 0.5 mile downstream from Lake Drummond, 2.5 miles east of Nansemond County line, 3.1 miles north of North Carolina State line, and 20 miles southwest of Norfolk.

Records available.--May 1926 to September 1968.

Gage.--Staff gage read twice daily. Datum of gage is 12.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum gage height during year, 5.40 ft Apr. 5; minimum, 3.26 ft Sept. 26, 30.
1926-68: Maximum gage height, 5.68 ft Sept. 17, 1960; minimum, -0.67 ft Nov. 3, 1952.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.99	4.88	4.96	4.94	5.02	5.24	5.13	4.93	5.19	4.53	4.55	3.92
2	4.99	4.93	4.94	4.95	4.98	5.08	5.07	5.02	5.24	4.49	4.50	3.88
3	4.99	4.95	5.05	4.98	4.99	5.05	5.06	5.10	5.22	4.43	4.53	3.86
4	5.00	4.99	5.09	4.97	5.00	4.96	5.14	5.06	5.14	4.44	4.44	3.86
5	5.02	5.02	5.11	4.94	4.99	5.11	5.30	5.06	5.06	4.36	4.45	3.84
6	5.02	5.04	5.22	4.92	5.00	5.10	5.09	5.10	5.04	4.37	4.41	3.86
7	5.01	5.04	5.21	5.02	5.00	5.08	5.08	5.10	5.06	4.34	4.43	3.91
8	5.00	5.04	5.11	5.00	5.07	5.05	5.14	5.11	5.04	4.26	4.46	3.82
9	5.00	5.08	5.10	4.98	4.98	5.06	5.16	5.09	4.99	4.21	4.38	3.80
10	4.99	5.08	5.11	4.90	4.99	5.07	5.19	5.10	4.99	4.23	4.38	3.76
11	4.91	5.09	5.11	5.09	4.89	5.10	5.09	5.09	4.97	4.26	4.34	3.75
12	4.82	5.14	5.10	5.12	4.92	5.11	5.04	5.15	4.99	4.27	4.32	3.77
13	4.79	5.09	5.10	5.11	4.86	5.05	5.15	5.17	4.99	4.34	4.34	3.74
14	4.83	5.09	5.09	5.12	4.88	5.04	5.11	5.15	4.99	4.43	4.30	3.70
15	4.81	5.13	5.10	5.08	4.89	5.04	5.13	5.17	4.94	4.42	4.29	3.64
16	4.82	5.11	5.11	5.16	4.86	5.10	5.13	5.15	4.92	4.45	4.34	3.60
17	4.91	5.10	5.10	5.14	4.90	5.17	5.09	5.12	4.84	4.49	4.42	3.59
18	4.98	5.13	5.06	5.21	4.97	5.21	5.08	5.05	4.85	4.47	4.41	3.52
19	4.89	5.13	5.07	5.19	5.07	5.25	5.02	5.08	4.85	4.49	4.38	3.49
20	4.88	5.10	5.11	4.93	5.12	5.25	5.06	5.09	4.81	4.62	4.41	3.48
21	4.89	5.09	5.08	4.94	5.06	5.15	5.16	4.99	4.73	4.64	4.35	3.38
22	4.87	5.11	5.07	4.90	5.18	5.08	5.18	5.03	4.71	4.65	4.33	3.39
23	4.85	5.10	5.24	4.92	5.18	5.00	5.13	4.95	4.71	4.70	4.29	3.35
24	4.85	5.11	5.05	4.90	5.16	4.90	5.24	4.99	4.68	4.71	4.27	3.37
25	4.83	5.13	4.93	4.96	5.12	4.79	5.19	4.85	4.66	4.69	4.25	3.30
26	4.90	5.06	5.00	4.91	5.20	4.73	5.18	4.83	4.65	4.62	4.18	3.27
27	4.87	5.05	5.03	5.02	5.21	4.71	5.21	4.86	4.59	4.62	4.17	3.32
28	4.92	4.94	5.02	5.05	5.17	5.11	5.10	5.01	4.71	4.59	4.16	3.29
29	4.90	4.87	4.97	5.08	5.17	5.22	5.05	5.07	4.63	4.65	4.13	3.28
30	4.89	4.90	4.88	5.08	-----	5.28	5.00	5.13	4.54	4.56	4.04	3.27
31	4.90	-----	4.89	5.12	-----	5.24	-----	5.19	-----	4.56	4.00	-----

68-108

DISMAL SWAMP BASIN

7-0435. Cypress Swamp at Cypress Chapel, Va.

Location.--Lat 36°37'30", long 76°36'10", on right bank 10 ft upstream from bridge on State Highway 32, 0.5 mile downstream from Dragon Swamp, 0.8 mile northwest of Cypress Chapel, Nansemond County, and 6.3 miles south of Suffolk.

Drainage area.--23 sq mi, approximately.

Records available.--October 1953 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 28.65 ft above mean sea level, datum of 1929.

Average discharge.--15 years, 26.3 cfs.

Extremes.--Maximum discharge during year, 452 cfs Mar. 18 (gage height, 5.37 ft); no flow at times during year.
1953-68: Maximum discharge, 1,330 cfs Aug. 11, 1967 (gage height, 6.85 ft); no flow at times each year.

Remarks.--Records fair.

Cooperation.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	8.2	31	49	22	47	22	23	3.8	0	0	0
2	3.8	11	31	46	22	48	31	15	2.0	0	0	0
3	1.8	20	39	42	34	43	25	9.7	1.2	0	0	.70
4	1.1	24	81	50	37	36	21	6.2	.50	0	0	1.2
5	.60	22	63	67	28	29	22	6.7	1.0	1.0	0	.10
6	.30	18	43	35	24	24	107	8.2	.50	10	0	.20
7	.30	15	36	52	21	20	109	4.2	.30	1.0	0	4.2
8	.40	14	31	47	21	17	57	2.0	.20	.20	0	1.8
9	.60	14	29	42	20	15	43	1.1	.90	0	0	.30
10	1.1	12	34	40	17	13	35	.50	3.0	0	0	.20
11	2.3	12	81	37	14	17	38	.20	1.8	.10	.10	.20
12	3.2	12	148	35	11	23	36	.30	1.3	20	1.3	0
13	3.2	11	154	39	11	58	29	8.2	1.3	24	.40	0
14	2.3	11	86	283	11	62	24	12	1.0	8.2	0	0
15	1.6	11	59	265	12	46	22	4.9	.80	3.2	0	0
16	1.2	11	48	125	15	35	23	3.5	.30	16	0	0
17	1.1	9.7	41	74	14	84	19	1.8	.60	40	0	0
18	3.2	10	37	58	12	421	15	.80	1.7	11	0	0
19	7.7	11	36	49	11	246	14	.30	8.0	7.2	0	0
20	11	10	36	43	11	125	12	.10	6.0	74	0	0
21	11	9.7	32	38	11	77	11	0	4.5	48	0	0
22	8.2	11	30	35	8.7	58	9.2	0	2.8	11	0	0
23	5.3	16	164	31	7.7	30	8.7	0	1.7	2.0	0	0
24	4.2	23	212	30	8.0	54	25	0	1.2	.30	0	0
25	4.6	32	106	29	8.0	43	84	0	.80	.10	0	0
26	12	34	71	28	8.2	35	51	0	.50	0	0	0
27	21	27	59	29	8.5	30	29	3.5	.40	0	0	0
28	20	20	54	28	8.7	27	21	52	.40	0	0	0
29	14	17	78	27	17	24	16	54	.30	0	0	0
30	11	19	74	25	-----	21	22	27	.10	0	0	0
31	9.2	-----	53	24	-----	18	-----	14	-----	0	0	-----
TOTAL	174.50	475.6	2,081	1,822	453.8	1,850	982.9	258.20	50.90	277.30	1.80	10.90
MEAN	5.63	15.9	67.1	58.8	15.6	59.7	32.8	8.33	1.70	8.95	.058	.34
MAX	21	34	212	283	37	421	109	54	8.0	74	1.3	4.2
MIN	.30	8.2	29	24	7.7	15	8.7	0	.10	0	0	0
CFS/IN	.245	.691	2.92	2.56	.678	2.60	1.43	.362	.074	.389	.003	.016
IN.	.28	.77	3.37	2.95	.75	3.00	1.60	.42	.08	.45	.004	.02

CAL YR 1967: TOTAL 11,462.80 MEAN 31.4 MAX 1,080 MIN 0 CFS/IN 1.37 IN 18.55
MAY YR 1968: TOTAL 8,438.90 MEAN 23.1 MAX 421 MIN 0 CFS/IN 1.00 IN 13.67

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	C.W.T.	DISCHARGE	DATE	TIME	C.W.T.	DISCHARGE
12-24	0100	4.69	254	3-18	1100	5.37	452
1-14	1900	5.25	392				

68-109

JAMES RIVER BASIN

2-0345. Willis River at Flanagan Mills, Va.

LOCATION.--Lat 37°40'00", long 78°10'00", Cumberland County, on left bank 15 ft upstream from bridge on State Highway 690, 0.4 mile east of Flanagan Mills, 6.9 miles upstream from mouth, and 7.7 miles downstream from Reynolds Creek.

DRAINAGE AREA.--247 sq mi.

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 178.98 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 3, 1935, nonrecording gage at site 1,300 ft upstream at same datum.

AVERAGE DISCHARGE.--43 years, 233 cfs (13.03 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,000 cfs July 24 (gage height, 13.80 ft); maximum gage height, 22.57 ft Aug. 21 (backwater from James River); minimum discharge, 8.1 cfs Oct. 6 (gage height, 2.60 ft). Period of record: Maximum discharge, 9,580 cfs Apr. 27, 1937 (gage height, 23.86 ft, from floodmarks), from rating curve extended above 5,800 cfs on basis of velocity-area studies, with backwater correction; minimum, 1.5 cfs Sept. 13, 14, 1966 (gage height, 2.26 ft).

REMARKS.--Records good. Complete regulation of flow from Trice Lake, 0.4 mile upstream (total capacity, about 1,100 acre-ft), tributary to Willis River, slightly affects flow at gage.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 872: 1936-37. WSP 892: 1928-29, 1932-34(M). WSP 972: 1937, 1940. WSP 1203: 1929. WSP 1303: 1928(M), 1929, 1930(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	30	70	96	142	147	170	89	44	28	222	54
2	8.4	30	73	94	217	164	160	86	42	32	113	51
3	8.3	30	93	85	393	202	150	82	48	28	106	49
4	8.5	37	106	78	393	287	145	79	51	27	152	49
5	8.4	43	126	71	287	393	145	76	47	27	160	50
6	8.2	48	121	66	208	465	150	73	43	22	176	52
7	9.8	47	101	67	180	824	170	70	37	122	155	51
8	16	55	88	73	164	1,010	160	67	32	413	116	54
9	23	62	86	75	367	1,120	135	71	153	380	87	54
10	27	69	73	74	450	1,340	130	88	160	276	84	52
11	22	124	65	71	379	1,160	125	86	125	120	82	46
12	25	285	64	66	254	768	125	75	94	46	73	43
13	25	1,590	67	62	208	421	120	65	73	75	65	39
14	24	407	74	59	169	294	110	60	60	60	56	38
15	32	272	94	59	147	248	106	59	72	47	53	36
16	32	174	92	59	135	218	130	58	88	38	51	34
17	32	135	73	62	137	196	170	56	82	31	50	33
18	32	119	67	67	131	186	180	54	69	27	48	34
19	48	147	70	78	125	174	180	57	103	24	44	38
20	140	164	74	101	117	169	192	84	84	70	1,280	47
21	152	137	76	703	110	158	192	157	63	141	1,580	71
22	87	103	73	890	106	147	180	186	52	406	1,550	74
23	49	90	116	850	163	137	140	135	44	1,440	794	71
24	36	82	174	732	339	147	145	92	42	1,880	145	58
25	32	84	158	339	313	764	130	81	42	1,640	108	54
26	31	84	113	230	230	890	117	74	40	364	94	56
27	28	79	96	186	180	970	110	68	36	180	88	53
28	26	77	95	152	152	822	103	61	33	135	78	50
29	28	75	110	137	-----	288	97	55	28	115	64	46
30	30	74	108	137	-----	222	93	51	25	459	60	41
31	30	-----	98	137	-----	198	-----	48	-----	420	57	-----
TOTAL	1,072.1	4,753	2,894	5,558	6,196	14,524	4,280	2,483	1,912	9,123	7,223	1,478
MEAN	34.6	158	93.4	192	221	469	143	80.1	63.7	294	252	49.3
MAX	152	1,590	174	890	450	1,340	192	197	160	1,880	1,580	74
MIN	8.2	30	64	59	106	137	93	48	25	22	44	33
CFSM	.14	.64	.38	.78	.50	1.90	.58	.32	.26	1.19	1.02	.20
IN.	.16	.72	.44	.90	.93	2.19	.64	.37	.29	1.37	1.18	.22
CAL YR 1968	TOTAL 55,125.6	MEAN 151	MAX 1,660	MIN 8.2	CFSM .61	IN 8.30						
WTR YR 1969	TOTAL 62,449.1	MEAN 171	MAX 1,880	MIN 8.2	CFSM .69	IN 9.41						

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-24	2000	13.80	2,000	8-20	1030	12.95	1,720

69-102

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0350. James River at Cartersville, Va.

LOCATION.--Lat 37°40'15", long 78°05'10". Goochland County, on left bank 200 ft downstream from bridge on State Highway 45 between Pemberton and Cartersville, 1.8 miles downstream from Willis River, and at mile 132.4.

DRAINAGE AREA.--6,242 sq mi.

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 161.57 ft above mean sea level (levels by Corps of Engineers). Prior to June 4, 1927, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--71 years, 6,903 cfs (15.02 inches per year).

EXTREMES.--Current year: Maximum discharge, 250,000 cfs Aug. 21 (gage height, 33.75 ft, from floodmarks); minimum, 532 cfs Oct. 6 (gage height, 0.23 ft).
Period of record: Maximum discharge, 250,000 cfs Aug. 21, 1967 (gage height, 33.75 ft, from floodmarks); minimum, 316 cfs Sept. 13, 14, 1966 (gage height, 0.02 ft); minimum daily, 330 cfs Sept. 14, 1966.

REMARKS.--Records good. Moderate diurnal fluctuation caused by powerplants above station.

REVISIONS (WATER YEARS).--WSP 582: Drainage area. WSP 972: 1936(M). WSP 1203: 1901-2(M), 1924-25(M), 1928(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	629	1,400	2,600	4,770	4,610	4,760	6,670	3,830	2,210	2,160	7,040	3,700
2	640	1,370	2,360	4,270	4,780	4,850	5,870	3,480	2,290	2,090	5,010	3,530
3	614	1,300	2,430	3,630	5,880	4,770	5,590	3,300	2,390	3,010	4,250	3,200
4	566	1,260	2,560	3,200	7,810	5,230	5,100	3,170	2,910	3,770	6,640	3,300
5	566	1,240	2,680	2,900	9,480	5,980	4,950	2,790	2,180	2,130	7,860	3,720
6	536	1,240	2,970	2,600	8,460	6,320	4,780	2,630	2,100	1,770	7,860	3,990
7	591	1,390	2,500	2,400	7,010	8,030	4,710	2,790	2,080	1,960	6,340	3,540
8	670	1,330	2,620	2,200	6,410	11,700	4,580	2,710	2,090	6,920	5,960	3,150
9	860	1,510	2,910	2,080	6,940	9,810	4,300	2,640	9,350	5,870	4,900	3,080
10	897	1,550	2,880	2,510	7,790	11,200	4,180	2,940	8,480	4,440	6,700	3,310
11	777	1,920	2,570	2,430	7,700	11,200	3,900	3,030	3,830	3,550	7,820	2,930
12	686	2,690	2,330	2,260	7,350	11,000	3,930	2,710	2,870	3,300	5,070	2,700
13	887	3,910	2,370	1,860	6,780	9,290	3,800	2,660	2,630	6,460	6,860	2,500
14	935	5,620	2,400	1,310	6,130	7,740	3,570	3,430	4,830	3,420	5,980	2,400
15	852	4,210	2,290	1,980	5,460	6,630	3,310	2,740	4,100	2,770	4,990	2,300
16	930	3,630	2,250	1,660	4,920	5,880	3,840	2,960	4,530	2,610	4,240	2,100
17	931	3,470	1,990	1,580	4,480	5,300	4,970	2,850	5,860	2,210	3,700	2,100
18	920	4,740	2,120	1,890	4,290	4,970	5,430	2,450	4,500	2,090	4,170	2,000
19	1,080	7,680	2,050	1,740	3,950	4,670	2,430	2,450	6,180	1,810	5,640	2,390
20	5,300	10,800	1,740	2,020	3,850	4,450	6,530	3,720	5,710	1,610	82,600	2,240
21	17,200	13,500	1,810	6,710	3,680	4,510	5,690	11,700	3,940	2,720	219,000	2,660
22	11,100	9,100	1,740	15,100	3,480	4,620	5,760	9,600	3,020	3,510	121,000	3,430
23	6,300	6,870	2,020	11,900	3,670	5,370	6,100	7,120	2,830	6,700	37,200	2,410
24	4,040	5,310	2,710	10,200	4,880	6,650	5,610	5,830	2,790	14,200	17,200	2,660
25	3,440	4,430	2,860	10,000	5,160	16,600	5,370	5,100	3,640	9,340	12,000	2,990
26	2,490	3,820	2,660	9,800	4,650	21,600	4,960	4,370	4,280	5,580	9,170	3,190
27	2,290	3,540	3,220	8,600	4,380	16,100	4,760	3,740	3,330	5,970	7,490	2,430
28	2,200	3,100	3,170	7,440	4,740	13,700	4,320	3,280	3,270	5,580	6,250	2,280
29	1,680	2,930	2,810	6,310	-----	10,700	4,180	2,960	2,900	8,280	5,310	2,190
30	1,770	2,570	3,190	5,540	-----	8,840	3,880	2,770	2,370	13,100	3,300	1,900
31	1,530	-----	4,170	5,070	-----	7,520	-----	2,720	-----	10,300	3,690	-----
TOTAL	73,927	119,430	79,000	146,040	158,740	259,790	146,070	118,770	113,490	149,030	635,260	84,320
MEAN	2,385	3,981	2,548	4,711	5,069	8,380	4,869	3,831	3,783	4,807	20,490	2,811
MAX	17,200	13,500	4,170	15,100	9,480	21,600	6,670	11,700	9,350	14,200	219,000	3,990
MIN	536	1,240	1,760	1,310	3,480	4,450	3,310	2,450	2,080	1,610	3,300	1,900
CFSM	.38	.64	.41	.75	.91	1.34	.78	.61	.61	.77	3.28	.45
IN-	.44	.71	.47	.87	.95	1.55	.67	.71	.68	.89	3.78	.50

CAL YR 1968 TOTAL 1,656,077 MEAN 4,525 MAX 27,500 MIN 536 CFSM .72 IN 9.67
MTR YR 1969 TOTAL 2,083,867 MEAN 5,709 MAX 219,000 MIN 536 CFSM .91 IN 12.42

PEAK DISCHARGE (BASE, 40,000 CFS).--AUG. 21 (0600) 250,000 CFS (33.75 FT).

NOTE.--NO GAGE-HEIGHT RECORD AUG. 19-23.

69-103

JAMES RIVER BASIN

2-0365. Fine Creek at Fine Creek Mills, Va.

LOCATION.--Lat 37°35'52", long 77°49'12", Powhatan County, on right bank 75 ft downstream from bridge on State Highway 711, at Fine Creek Mills, 0.8 mile upstream from mouth, and 6.7 miles northeast of Powhatan.

DRAINAGE AREA.--23 sq mi, approximately.

PERIOD OF RECORD.--July 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 156.59 ft above mean sea level. Prior to Oct. 28, 1953, non-recording gage and crest-stage gage at site 75 ft upstream at same datum.

AVERAGE DISCHARGE.--25 years, 18.2 cfs (10.75 inches per year).

EXTREMES.--Current year: Maximum discharge, 392 cfs Aug. 20 (gage height, 3.55 ft); minimum daily, 0.08 cfs Oct. 1.

Period of record: Maximum discharge, 3,640 cfs Oct. 21, 1961 (gage height, 8.35 ft); minimum daily, 0.08 cfs Oct. 1, 1960; minimum gage height, 1.56 ft Sept. 11, 1954, Sept. 28, 29, 1968.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 1203: 1948. WSP 1303: 1945(M). WSP 1383: 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08											
2	.12	.80	2.8	9.2	11	10	15	6.8	3.6	2.3	20	2.8
3	.15	.80	5.2	6.4	15	14	14	6.8	3.0	2.5	14	2.8
4	.25	.90	5.6	6.0	21	22	13	6.4	4.2	2.5	12	3.9
5	.30	1.0	5.6	6.0	12	30	14	6.0	3.3	2.8	30	4.2
6				4.9	9.2	35	16	5.6	2.5	2.5	90	3.9
7	.60	1.0	4.6	3.8	7.9	30	25	5.2	2.8	2.2	55	3.3
8	.25	1.6	3.9	3.0	8.6	101	21	4.9	2.5	2.8	35	3.0
9	.14	2.2	3.3	2.3	7.9	89	15	4.9	2.2	3.9	17	3.0
10	.12	1.0	3.0	3.0	49	56	13	6.0	28	3.9	10	4.6
	.12	6.0	2.8	4.0	22	58	12	6.4	10	4.2	22	3.0
11	.12	7.3	2.5	3.7	14	42	13	4.9	7.3	3.9	13	2.5
12	.15	23	2.5	3.5	11	28	11	4.6	5.6	3.3	9.8	2.2
13	.15	15	3.3	3.3	9.2	21	9.8	4.6	4.9	2.2	7.9	2.9
14	.17	5.2	6.8	3.0	7.3	19	9.8	4.2	9.8	1.8	6.8	2.5
15	.17	3.9	8.6	2.8	6.8	16	9.8	4.2	31	1.8	7.3	2.2
16	.18	3.9	4.6	2.7	7.3	14	15	3.9	38	1.8	6.4	2.2
17	.19	4.2	3.0	3.0	7.3	14	16	3.3	14	1.4	6.0	2.2
18	.19	4.9	3.6	9.0	6.8	13	16	2.8	10	1.6	5.6	2.8
19	.80	6.8	4.6	25	6.4	14	21	4.9	31	1.4	5.2	3.0
20	2.8	4.6	4.6	90	6.0	12	18	19	10	2.0	217	5.2
21	.60	3.3	4.2	75	6.0	12	14	9.8	6.4			
22	.30	3.0	4.6	60	6.0	10	14	6.0	6.4	8.6	163	6.8
23	.40	2.8	21	45	35	9.8	14	4.9	6.0	12	26	4.9
24	.50	2.5	11	35	45	16	11	10	5.6	150	14	3.9
25	.90	4.6	6.8	25	22	162	9.8	26	4.9	50	10	4.2
									6.8	25	8.8	6.0
26	.90	3.9	6.0	20	16	132	9.8	9.2	5.6	15	6.0	4.9
27	.70	3.3	5.6	15	12	45	8.6	4.4	4.6	12	5.2	4.9
28	.60	3.3	7.9	12	10	31	7.9	4.9	3.9	25	4.9	4.9
29	.90	4.2	9.2	20		25	7.9	4.6	3.6	60	3.9	3.6
30	.90	3.6	6.4	17		21	7.9	3.9	2.5	50	3.6	3.0
31	.80		6.4	13		18		3.0		50	3.0	
TOTAL	14.53	129.40	175.6	531.6	397.7	1,119.8	402.3	208.0	273.6	488.6	838.4	108.9
MEAN	.47	4.31	5.66	17.1	14.2	36.1	13.4	6.61	9.12	15.8	27.0	3.63
MAX	2.8	23	21	90	49	162	25	26	38	150	217	6.8
MIN	.08	.80	2.5	2.3	6.0	9.8	7.9	2.8	2.2	1.4	3.0	2.2
CFSM	.02	.19	.25	.75	.62	1.57	.58	.29	.40	.69	1.18	.16
IN.	.02	.21	.28	.86	.64	1.81	.65	.33	.44	.79	1.36	.18
CAL YR 1968	TOTAL 2,940.93		MEAN 8.03		MAX 141		MIN .08	CFSM .35		IN 4.75		
WTR YR 1969	TOTAL 4,895.43		MEAN 12.8		MAX 217		MIN .08	CFSM .56		IN 7.58		

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-23	1000	3.09	247	8-20	2130	3.55	392
8-5	UNKNOWN	3.10	250				

69-104

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0370. James River & Kanawha Canal near Richmond, Va.

LOCATION.--Lat 37°33'52", long 77°34'28". Henrico County, on left bank 75 ft downstream from canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Boshier Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond.

PERIOD OF RECORD.--September 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 106.07 ft above mean sea level. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

AVERAGE DISCHARGE.--33 years, 858 cfs.

EXTREMES.--Current year: Maximum gage height, 24.7 ft Aug. 21, from high-water mark in gage house (interchange of flow with James River makes maximum discharge indeterminate); slight leakage through gates when closed at times during year.

Period of record: Maximum gage height, 24.7 ft Aug. 21, 1969, from high-water mark in gage house (interchange of flow with James River makes maximum discharge indeterminate); no flow at times when head gates were closed.

REMARKS.--Records good. Canal diverts from James River 1,200 ft above Boshier Dam and discharges into river at several points below gaging station near Richmond. Above 2,540 cfs (gage height, 14.5 ft) there is interchange of flow with James River; discharge above 2,540 cfs included in discharge for James River near Richmond. Figures given show flow in canal only; for record of flow of James River near Richmond, see sta 2-0375.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	649	775	805	868	820	868	836	820	790	775	868	852
2	610	760	805	852	820	852	820	836	775	775	852	836
3	597	760	790	836	820	852	852	820	775	800	836	820
4	597	760	805	820	836	852	836	836	790	840	868	820
5	560	760	805	820	852	852	72	820	790	800	920	836
6	536	760	805	805	852	836	303	820	775	790	900	836
7	548	760	805	805	852	836	368	820	760	775	884	836
8	572	775	790	805	852	836	852	820	760	820	784	820
9	597	775	805	805	852	836	836	710	820	852	301	820
10	602	790	805	805	852	836	836	62	868	820	900	820
11	717	775	805	805	852	836	836	312	805	805	920	805
12	717	820	790	805	852	836	836	805	805	805	884	805
13	703	852	775	790	852	836	836	805	805	836	900	790
14	703	940	790	775	852	852	836	820	820	805	920	790
15	731	884	790	760	836	836	836	820	836	805	884	790
16	717	852	775	790	836	820	836	805	805	790	868	775
17	731	836	775	775	836	836	836	805	820	790	852	775
18	576	852	775	790	836	836	836	805	805	775	836	775
19	58	900	775	790	836	820	836	805	820	775	868	775
20	328	920	790	790	836	820	852	805	820	775	940	790
21	538	940	775	836	836	820	852	852	805	775	2,270	790
22	940	900	790	868	836	820	836	852	790	836	2,540	805
23	900	868	790	852	852	836	836	820	790	852	1,930	805
24	868	868	805	852	852	836	836	820	790	836	98	790
25	852	852	820	852	852	852	836	820	805	820	239	805
26	820	836	820	852	836	836	836	820	820	836	900	805
27	805	852	820	852	836	836	836	820	805	868	900	805
28	805	836	836	836	852	745	836	820	805	852	884	790
29	790	820	836	836	-----	63	836	805	790	836	868	790
30	775	805	820	820	-----	245	820	805	790	940	868	775
31	775	-----	936	836	-----	836	-----	790	-----	884	852	-----
TOTAL	21,177	24,883	24,808	25,383	23,584	24,509	23,660	23,975	24,034	25,343	29,314	24,126
MEAN	683	829	800	819	842	791	789	773	801	818	946	804
MAX	940	940	836	868	852	868	868	852	868	940	2,540	852
MIN	58	760	775	760	820	63	72	62	740	775	98	775

CAL YR 1968 TOTAL 291,938
WTR YR 1969 TOTAL 294,816

MEAN 798
MEAN 808
MAX 1,000
MAX 2,540
MIN 57
MIN 58

JAMES RIVER BASIN

2-0375. James River near Richmond, Va.

LOCATION.--Lat 37°33'47", long 77°32'50", Henrico County, on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 0.5 mile west of city limits of Richmond, 1.7 miles downstream from Bosher Dam, 3.3 miles upstream from Powhite Creek, and at mile 111.7.

DRAINAGE AREA.--6,757 sq mi.

PERIOD OF RECORD.--October 1934 to current year. Gage-height records collected in vicinity of Mayo's Bridge, at mile 104.6, 1876-1956, and at mile 103.7, since 1957, are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Control is Williams Island Dams which divert flow for City of Richmond water supply. Datum of gage is 98.82 ft above mean sea level.

AVERAGE DISCHARGE.--35 years, 7,127 cfs (14.32 inches per year) (includes flow in James River & Kanawha Canal).

EXTREMES.--Current year: Maximum discharge, 222,000 cfs (includes Canal flow) Aug. 21, 1969 (gage height, 24.95 ft); minimum daily, about 10 cfs Oct. 5, 6.

Period of record: Maximum discharge, 222,000 cfs (includes Canal flow) Aug. 21, 1969 (gage height, 24.95 ft); minimum daily, about 10 cfs Sept. 8-15, 1966, Sept. 30, Oct. 5, 6, 1968; minimum daily discharge of James River and James River & Kanawha Canal combined, 370 cfs Sept. 13, 1966.

Possible minimum daily discharge, since 1899, of James River and James River & Kanawha Canal combined, about 350 cfs in October 1930. (Minimum daily of record for James River at Cartersville, 330 cfs Sept. 14, 1966.)

REMARKS.--Records good. City of Richmond takes from 40 to 90 cfs for water supply from river below gage except during periods of low flow when supply is obtained from James River & Kanawha Canal. Flow regulated by powerplants above station. Above 18.2 ft stage there is interchange of flow with James River & Kanawha Canal. Records of daily discharge include diversion by City of Richmond, but do not include flow in James River & Kanawha Canal which diverts around station. For canal records, see sta 2-0370.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 972: 1936(M). WSP 1433: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	810	2,070	4,080	4,580	4,710	6,640	3,450	2,020	1,650	8,200	3,450
2	25	750	2,190	4,080	4,320	4,710	6,000	3,320	1,690	1,910	5,850	3,200
3	32	750	1,950	3,580	4,840	4,840	5,550	3,050	1,810	1,400	4,200	3,050
4	32	690	2,070	3,050	6,000	5,120	5,260	2,950	2,020	3,320	4,710	2,820
5	10	670	2,040	2,700	8,380	5,850	5,700	2,680	2,070	2,160	7,840	3,200
6	10	650	2,310	2,160	8,760	6,160	5,550	2,400	1,530	1,330	8,200	3,320
7	50	710	2,310	1,920	7,660	7,840	4,710	2,350	1,490	1,140	6,480	3,450
8	48	830	1,970	1,700	6,480	11,800	4,320	2,260	1,510	2,750	5,850	2,850
9	50	770	2,140	1,500	6,640	11,800	4,200	2,330	2,650	6,810	5,550	2,550
10	167	1,050	2,400	1,700	8,020	11,300	3,820	3,000	12,200	4,450	4,580	2,880
11	154	1,120	2,310	1,900	7,660	11,800	3,820	3,200	4,710	3,320	8,760	2,520
12	68	1,810	1,990	1,500	7,320	12,600	3,700	2,310	2,950	2,920	5,850	2,210
13	15	3,200	1,810	1,200	6,980	10,100	3,580	2,210	2,230	3,950	5,260	2,020
14	59	6,160	1,970	975	6,000	8,200	3,450	2,580	2,380	4,450	6,320	1,860
15	154	4,450	1,920	690	5,550	6,980	3,450	2,600	4,320	2,520	4,840	1,810
16	122	3,580	1,790	1,420	4,840	6,000	3,450	2,280	3,700	1,520	4,320	1,600
17	122	3,120	1,690	1,300	4,450	5,400	3,950	2,350	4,980	1,720	3,450	1,600
18	221	3,080	1,440	1,420	4,200	4,840	4,980	2,160	4,450	1,510	3,200	1,400
19	890	5,360	1,600	1,620	3,820	4,710	5,120	1,970	4,980	1,420	4,170	1,460
20	970	8,020	1,490	1,530	3,580	4,450	5,700	2,210	5,850	1,370	25,400	2,110
21	11,400	13,100	1,210	3,450	3,450	4,450	5,700	6,650	4,320	1,370	142,000	1,990
22	13,800	10,800	1,370	13,500	3,320	4,320	5,400	11,200	3,150	2,900	195,000	2,780
23	7,170	7,320	1,490	14,000	3,580	4,580	5,400	7,320	2,400	10,100	103,000	2,580
24	4,450	5,850	1,740	10,500	4,980	5,550	5,550	5,550	2,190	13,500	24,700	2,160
25	3,150	4,320	2,310	9,700	5,700	10,800	4,840	4,840	2,330	13,400	14,500	2,380
26	2,350	3,700	2,330	9,510	5,120	24,800	4,710	4,200	3,200	6,160	6,840	2,580
27	1,670	3,450	2,210	8,940	4,450	17,400	4,320	3,580	3,320	5,400	7,840	2,700
28	1,560	2,920	2,880	7,660	4,450	15,000	4,080	3,020	2,580	5,120	6,320	1,880
29	1,400	2,600	2,580	6,640	-----	12,600	3,820	2,650	2,500	5,400	5,400	1,880
30	950	2,350	2,400	5,400	-----	10,500	3,700	2,330	2,110	12,600	4,680	1,760
31	1,010	-----	2,920	4,980	-----	7,840	-----	2,210	-----	14,000	2,900	-----
TOTAL	52,144	101,990	62,900	134,255	155,130	267,050	140,470	105,210	97,640	141,570	673,010	72,050
MEAN	1,682	3,466	2,029	4,331	5,540	8,615	4,682	3,394	3,255	4,567	21,710	2,402
MAX	13,800	13,100	2,920	14,000	8,760	24,800	6,640	11,200	12,200	14,000	195,000	3,450
MIN	10	650	1,210	690	3,320	4,320	3,450	1,970	1,490	1,140	2,900	1,400
(*)	683	829	800	819	842	791	789	773	801	818	940	804
MEAN*	2,365	4,295	2,829	5,150	6,382	9,406	5,471	4,167	4,056	5,385	22,656	3,206
CFSM*	.35	.64	.42	.76	.94	2.39	.81	.62	.60	.80	3.35	.47
IN*	.40	.71	.48	.88	.98	3.60	.90	.72	.67	.92	3.86	.52

CAL YR 1968 TOTAL 1,450,881 MEAN 3,964 MAX 28,400 MIN 10 MEAN* 4,762 CFSM* .70 IN* 9.58
WTR YR 1969 TOTAL 2,005,419 MEAN 5,494 MAX 195,000 MIN 10 MEAN* 6,302 CFSM* .93 IN* 12.64

PEAK DISCHARGE (BASE, 50,000 CFS).--AUG. 21 (2400) 222,000 CFS (24.95 FT).

* DIVERSION, IN CUBIC FEET PER SECOND, BY JAMES RIVER & KANAWHA CANAL.
* ADJUSTED FOR DIVERSION.

JAMES RIVER BASIN

2-0380. Falling Creek near Chesterfield, Va.

LOCATION.--Lat 37°26'37", long 77°31'21", Chesterfield County, on left bank at upstream side of bridge on State Highway 651, 0.8 mile downstream from Licking Creek, 2.8 miles upstream from Pocoshock Creek, and 4.7 miles northwest of Chesterfield.

DRAINAGE AREA.--32.8 sq mi.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 126.39 ft. above mean sea level.

AVERAGE DISCHARGE.--14 years, 29.9 cfs (12.38 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,200 cfs July 23 (gage height, 10.39 ft); minimum, 0.01 cfs Oct. 3 (gage height, 1.54 ft).
Period of record: Maximum discharge, 2,510 cfs Sept. 12, 1960 (gage height, 12.67 ft); minimum, 0.01 cfs Sept. 20, Oct. 3, 1968.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WRD Va. 1961: 1957(M), 1958-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.62	1.1	3.6	13	26	26	27	2.9	2.6	21	4.8
2	.02	.56	1.4	2.8	24	30	25	15	2.7	2.5	18	4.6
3	.01	.72	1.5	2.4	31	37	23	14	3.7	2.4	19	5.3
4	.01	.73	1.4	2.1	23	49	27	13	2.8	2.2	34	5.8
5	.01	.92	1.5	1.9	18	52	36	13	2.6	1.7	127	5.3
6	.01	.94	1.6	2.1	15	45	91	11	2.4	1.7	77	4.8
7	.19	1.2	1.5	2.4	14	130	72	9.5	2.3	2.1	35	4.6
8	.16	1.5	1.6	2.7	13	133	47	8.6	3.3	2.2	23	4.1
9	.04	1.5	1.6	3.2	71	87	36	10	52	2.2	19	4.3
10	.03	2.7	1.5	3.4	52	73	32	14	22	2.4	27	4.5
11	.03	1.7	1.4	3.7	34	64	32	12	14	3.4	32	4.1
12	.02	5.7	1.4	3.8	29	46	29	7.9	8.8	2.8	22	3.7
13	.02	3.4	1.6	2.9	23	38	24	7.2	9.6	2.5	17	3.4
14	.02	1.2	2.1	2.7	18	34	22	6.4	13	2.2	14	3.5
15	.02	.81	2.9	2.5	16	28	22	6.0	23	2.2	13	3.3
16	.02	.87	2.0	2.7	15	25	28	5.4	60	2.0	11	3.1
17	.04	1.1	1.7	2.5	15	22	33	4.9	26	1.8	10	3.1
18	.10	1.2	1.5	2.7	13	21	40	4.4	20	1.8	9.4	3.2
19	.69	2.3	1.6	3.1	13	24	65	5.0	24	1.7	8.2	3.1
20	.99	1.5	1.7	7.9	12	24	64	19	16	1.8	80	5.1
21	.73	1.2	1.6	4.8	11	22	40	21	11	4.5	82	10
22	.53	.99	1.7	44	10	19	33	14	7.8	1.3	34	8.3
23	.58	.87	4.4	34	71	17	29	8.9	6.4	587	21	6.3
24	.55	.87	3.3	25	120	20	26	9.0	5.5	116	16	6.9
25	1.5	1.1	2.3	20	71	212	23	22	5.7	42	11	29
26	.71	.96	2.0	16	42	161	21	14	4.3	26	9.4	15
27	.32	.92	1.9	12	30	77	19	8.7	3.8	20	7.5	9.3
28	.32	1.0	2.1	9.9	25	47	18	6.3	3.4	46	6.5	7.0
29	.49	1.2	2.5	11	---	37	18	4.8	2.9	83	5.6	7.1
30	.44	1.1	2.1	10	---	32	18	3.9	2.6	51	5.4	5.6
31	.40	---	2.1	9.1	---	29	---	3.2	---	30	5.1	---
TOTAL	9.03	41.38	58.6	300.1	842	1,661	1,019	319.1	364.5	1,053.2	822.1	188.4
MEAN	.29	1.38	1.89	9.68	30.1	53.6	34.0	10.3	12.2	34.0	26.5	8.28
MAX	1.5	5.7	4.4	48	120	212	91	22	60	587	127	29
MIN	.01	.56	1.1	1.9	10	17	18	3.2	2.3	1.7	5.1	3.1
CFSM	.009	.04	.06	.30	.92	1.63	1.04	.31	.37	1.04	.61	.19
IN.	.01	.05	.07	.34	.95	1.88	1.16	.34	.41	1.19	.93	.21

CAL YR 1968 TOTAL 4,435.42

MEAN 12.1

MAX 292

MIN .01

CFSM .37

IN 5.03

WTR YR 1969 TOTAL 6,678.41

MEAN 18.3

MAX 587

MIN .01

CFSM .56

IN 7.57

PEAK DISCHARGE (BASE, 350 CFS).--JULY 23 (0815) 1,200 CFS (10.39 FT).

69-107

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0388.5. Holiday Creek near Andersonville, Va.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°24'55", long 78°38'10", Appomattox County, on right bank 350 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville.

DRAINAGE AREA.--8.53 sq mi.

PERIOD OF RECORD.--April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 475 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 327 cfs July 23 (gage height, 3.55 ft); minimum, 0.80 cfs Oct. 1, 2, 3 (gage height, 0.90 ft).
Period of record: Maximum discharge, 377 cfs June 23, 1967 (gage height, 3.80 ft); minimum, 0.10 cfs Sept. 11, 12, 1966; minimum gage height, 0.75 ft July 28, 1966.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	1.9	2.3	3.1	4.2	26	5.0	4.1	2.6	1.5	2.3	1.9
2	.88	2.0	3.5	3.5	10	16	5.0	3.9	3.4	1.6	2.7	1.9
3	.90	2.0	2.8	2.9	8.7	6.4	4.8	3.9	5.1	1.5	2.6	2.0
4	1.1	2.2	4.2	3.1	5.8	8.2	5.3	3.7	2.9	1.5	6.8	3.0
5	1.1	4.3	3.3	3.3	4.9	9.8	5.3	3.6	2.7	1.4	5.7	2.8
6	1.3	2.7	2.8	3.9	4.4	12	5.2	3.5	2.5	1.8	4.2	2.3
7	4.7	3.3	2.7	3.9	4.2	47	4.6	3.3	2.3	2.9	2.8	2.3
8	1.5	2.9	2.6	3.4	4.3	23	4.4	3.3	2.3	2.7	2.4	2.4
9	1.3	2.5	2.6	3.4	10	23	4.3	7.1	5.8	2.2	2.3	2.7
10	1.3	6.6	2.7	2.8	7.9	19	4.6	4.6	3.8	2.5	3.5	1.9
11	1.3	5.7	2.8	2.8	6.1	13	4.8	3.7	3.8	2.3	2.6	1.7
12	1.4	25	2.8	3.2	5.2	8.6	4.4	3.4	3.6	1.9	2.1	1.6
13	1.6	9.5	2.6	3.5	4.6	7.1	4.3	3.4	2.9	1.4	1.9	1.6
14	1.4	5.6	3.4	4.2	5.2	6.3	4.2	3.3	3.1	1.3	3.0	1.5
15	1.5	4.3	3.2	5.4	5.5	5.7	4.9	3.3	5.6	1.2	3.2	1.5
16	1.7	3.9	3.7	5.5	4.0	5.3	12	3.1	4.4	1.1	2.7	1.5
17	1.8	3.3	2.6	4.6	3.8	5.1	8.7	3.0	3.5	1.1	2.5	1.4
18	2.3	5.4	2.6	3.7	3.7	5.0	8.4	2.9	3.1	1.0	2.3	3.1
19	7.7	5.4	2.5	3.6	3.6	9.0	8.5	19	4.4	1.0	2.7	2.1
20	3.6	3.7	2.5	7.4	3.5	4.6	6.6	15	3.0	3.7	32	5.9
21	2.1	3.3	2.3	53	3.7	4.4	9.7	5.8	2.6	5.8	6.2	4.2
22	1.8	2.8	3.2	14	3.6	4.0	5.8	4.4	2.6	7.7	3.8	2.8
23	1.8	2.6	7.1	7.8	8.2	3.7	5.5	3.9	2.7	72	3.1	2.3
24	1.8	2.6	4.2	5.8	7.7	17	5.0	3.8	2.6	41	2.7	2.6
25	2.3	2.8	3.9	4.7	5.7	92	4.8	3.8	3.1	7.5	2.7	3.0
26	1.9	2.5	3.0	4.1	4.9	14	4.6	3.3	2.6	9.6	2.5	2.1
27	1.7	2.5	2.9	3.7	4.5	8.3	4.4	3.1	2.5	4.3	2.4	2.1
28	2.0	2.5	3.3	4.2	4.4	6.6	4.3	2.9	2.2	4.1	2.3	2.0
29	2.4	2.4	3.1	3.5	-----	6.0	4.6	2.8	1.9	3.3	2.3	1.8
30	1.8	2.3	2.8	3.5	-----	5.6	4.2	2.6	1.5	5.0	2.2	1.7
31	1.8	-----	2.9	3.4	-----	5.0	-----	3.0	-----	2.5	2.1	-----
TOTAL	60.65	128.5	96.9	184.9	154.3	422.7	164.2	140.5	95.1	196.4	122.2	69.7
MEAN	1.96	4.28	3.13	5.96	5.51	13.6	5.47	4.53	3.17	6.34	3.94	2.32
MAX	7.7	25	7.1	53	10	92	12	19	5.8	72	32	5.9
MIN	.87	1.9	2.3	2.8	3.5	3.7	4.2	2.6	1.5	1.0	1.9	1.4
CFSM	.23	.50	.37	.70	.65	1.60	.64	.53	.37	.74	.46	.27
IN.	.26	.56	.42	.81	.67	1.84	.72	.61	.41	.86	.53	.30

CAL YR 1968 TOTAL 1,852.52 MEAN 5.06 MAX 130 MIN .74 CFSM .59 IN 0.08
WTR YR 1969 TOTAL 1,836.05 MEAN 5.03 MAX 92 MIN .87 CFSM .59 IN 0.01

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
3-25	0245	2.90	231	7-23	2245	3.55	327

69-108

JAMES RIVER BASIN

2-0390, Buffalo Creek near Hampden Sydney, Va.

LOCATION.--Lat 37°15'25", long 78°29'10", Prince Edward County, on left bank 100 ft above bridge on State Highway 658, 0.8 mile upstream from Locket Creek, 2.4 miles northwest of Hampden Sydney, and 5.2 miles southwest of Farmville.

DRAINAGE AREA.--70 sq mi, approximately.

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 338.19 f. above mean sea level (levels by Virginia Department of Highways). Prior to Aug. 19, 1953, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--23 years, 59.4 cfs (11.52 inches per year).

EXTREMES.--Current year: Maximum discharge, 748 cfs Mar. 25 (gage height, 6.33 ft); minimum, 3.4 cfs Oct. 4; minimum gage height, 0.84 ft Sept. 17, 18.
Period of record: Maximum discharge, 6,440 cfs Aug. 18, 1955 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs; minimum, 3.4 cfs Oct. 4, 1968; minimum gage height, 0.83 ft July 27-30, 1966.
Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 1303: 1948-50(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	15	25	35	49	36	48	29	17	12	40	7.4
2	4.3	15	28	30	126	48	46	24	17	13	29	7.4
3	4.0	15	31	28	157	52	43	24	26	12	24	8.2
4	3.7	15	35	27	99	59	44	23	20	12	23	8.2
5	4.0	16	32	28	69	74	46	23	17	11	25	8.6
6	4.3	16	29	32	54	89	46	22	16	10	23	8.8
7	10	19	28	32	48	305	42	21	16	11	20	10
8	9.2	21	27	29	44	314	38	21	14	14	18	10
9	9.8	19	27	24	91	200	37	24	21	13	17	9.8
10	9.5	36	27	22	74	170	37	24	19	13	16	8.8
11	9.8	38	27	21	59	123	40	24	19	20	15	8.6
12	10	90	27	21	50	90	37	22	19	18	14	8.2
13	12	112	27	20	44	72	34	20	18	12	13	8.4
14	12	78	28	20	40	60	32	20	18	11	15	8.4
15	13	54	28	21	39	52	33	20	23	9.8	14	8.4
16	13	45	28	22	35	46	41	20	30	9.0	14	8.2
17	14	38	26	24	34	45	43	18	26	8.6	13	8.0
18	16	34	25	26	33	43	44	18	22	9.0	13	8.6
19	24	45	24	28	32	48	45	26	21	8.6	14	9.2
20	28	40	24	44	30	46	42	36	18	15	46	14
21	23	34	24	254	29	42	38	50	17	39	18	16
22	20	30	29	196	28	40	36	34	16	80	16	15
23	18	28	45	128	41	38	34	28	15	45	13	14
24	17	27	42	90	49	54	32	25	16	79	12	13
25	18	26	34	67	44	500	32	23	17	42	11	16
26	16	26	31	53	39	384	29	21	15	27	9.8	15
27	15	25	30	45	35	179	28	20	14	21	9.0	14
28	16	25	32	39	33	112	27	18	13	30	8.6	13
29	16	25	32	38	---	80	26	17	12	30	8.4	12
30	15	25	30	37	---	64	25	16	12	99	8.0	12
31	15	---	30	36	---	54	---	19	---	76	7.6	---
TOTAL	404.1	1,032	908	1,517	1,505	3,541	1,125	726	544	610.0	529.4	319.4
MEAN	13.0	34.4	29.3	48.9	53.8	114	37.5	23.4	18.1	26.1	17.1	10.6
MAX	28	112	45	254	157	500	48	50	30	99	46	16
MIN	3.7	15	24	20	28	36	25	16	12	8.6	7.6	7.4
CFSM	.19	.49	.42	.70	.77	1.63	.54	.33	.26	.37	.24	.15
IN.	.21	.35	.48	.81	.80	1.88	.60	.39	.29	.43	.28	.17

CAL YR 1968 TOTAL 12,703.4

MEAN 34.7

MAX 398

MIN 3.7

CFSM .50

IN 6.75

WTR YR 1969 TOTAL 12,960.9

MEAN 35.5

MAX 500

MIN 3.7

CFSM .51

IN 6.89

PEAK DISCHARGE (BASE, 500 CFS).--MAR. 25 (1830) 748 CFS (6.33 FT).

69-109

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JAMES RIVER BASIN

2-0395. Appomattox River at Farmville, Va.

LOCATION.--Lat 37°18'25", long 78°23'20", Cumberland County, on left bank 4 ft downstream from bridge on State Highway 45 at north town limits of Farmville, and 1.1 miles downstream from Buffalo Creek.

DRAINAGE AREA.--306 sq mi.

PERIOD OF RECORD.--March 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 281.93 ft above mean sea level. Prior to Nov. 29, 1928, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--43 years, 267 cfs (11.85 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,290 cfs Mar. 26 (gage height, 13.64 ft); minimum, 6.2 cfs Oct. 5, 6 (gage height, 3.13 ft).

Period of record: Maximum discharge, 21,000 cfs Aug. 15, 1940 (gage height, 23.60 ft), from rating curve extended above 12,000 cfs; minimum, 3.8 cfs Sept. 25, 1941.

REMARKS.--Records good. Diurnal fluctuation at low flow caused by Prince Edward Mill, 0.2 mile upstream.

REVISIONS (WATER YEARS).--WSP 972: 1927-37, 1938(M). WSP 1303: 1927(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	32	81	97	161	127	180	101	56	30	147	31
2	8.9	33	93	81	306	156	175	96	65	36	108	30
3	8.1	35	105	95	507	204	167	93	85	31	86	30
4	6.8	36	113	91	357	247	165	91	81	29	85	32
5	6.3	43	121	64	245	324	179	89	62	26	150	39
6	6.4	57	111	50	195	381	177	84	54	53	131	48
7	10	65	98	70	171	1,030	159	80	49	91	98	45
8	52	67	95	87	161	1,380	147	78	43	98	75	45
9	36	63	90	81	284	806	139	80	62	68	63	43
10	18	83	72	89	346	796	134	88	81	59	67	38
11	14	138	96	74	249	554	149	83	75	61	84	32
12	14	215	97	67	202	379	143	80	68	74	69	27
13	16	436	92	73	208	292	129	78	62	55	54	24
14	19	272	102	62	194	245	125	75	61	42	55	22
15	20	191	105	105	180	212	125	69	113	30	60	21
16	20	155	84	96	184	191	150	68	156	23	61	20
17	21	138	91	89	176	179	223	65	113	20	57	18
18	25	133	96	72	140	169	194	60	80	18	54	23
19	54	165	92	86	117	175	216	75	69	17	83	33
20	145	162	85	119	110	173	210	285	65	19	229	51
21	91	127	80	658	107	159	170	275	56	63	267	65
22	56	113	78	869	104	149	155	163	50	128	119	81
23	43	104	125	465	144	139	147	114	48	120	83	61
24	37	99	170	318	216	175	137	96	50	444	48	55
25	36	99	120	249	199	1,430	128	86	56	215	60	63
26	38	96	103	199	162	1,950	121	80	49	113	53	65
27	36	90	110	167	141	692	115	72	48	86	47	60
28	33	89	99	143	129	385	108	66	42	103	42	54
29	36	87	104	139	-----	285	105	62	36	89	38	48
30	41	85	97	135	-----	241	105	59	29	446	36	43
31	36	-----	90	131	-----	208	-----	60	-----	263	33	-----
TOTAL	994.4	3,508	3,095	5,141	5,695	13,833	4,577	2,951	1,964	3,010	2,662	1,267
MEAN	32.1	117	99.6	166	203	446	153	95.2	65.5	97.1	85.9	42.2
MAX	145	436	170	869	507	1,950	223	285	156	446	267	85
MIN	6.3	32	72	50	104	127	105	59	29	17	33	18
CFSM	10	38	33	54	66	146	50	31	21	32	28	14
IN.	12	43	38	62	69	168	56	36	24	37	32	15

CAL YR 1968 TOTAL 50,372.7 MEAN 138 MAX 1,670 MIN 6.3 CFSM .45 IN 6.12
WTR YR 1969 TOTAL 48,697.4 MEAN 133 MAX 1,950 MIN 6.3 CFSM .44 IN 5.92

PEAK DISCHARGE (BASE, 3,500 CFS).--NO PEAK ABOVE BASE.

69-110

JAMES RIVER BASIN

2-0400. Appomattox River at Mattoax, Va.

LOCATION.--Lat 37°25'17", long 77°51'33", Amelia County, on right bank 75 ft upstream from Southern Railway bridge at Mattoax, 0.3 mile upstream from Skinquarter Creek, and 3.7 miles upstream from Flat Creek.

DRAINAGE AREA.--729 sq mi.

PERIOD OF RECORD.--August 1900 to December 1905, March 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level. August 1900 to December 1905, nonrecording gage at same site, different datum. March 1926 to October 1936, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--48 years, 677 cfs (12.61 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,350 cfs July 23 (gage height, 19.33 ft); minimum, 19 cfs Oct. 1, 4, 6, 7 (gage height, 4.92 ft).

Period of record: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 782: Drainage area. WSP 892: 1938. WSP 972: 1928, 1932, 1934-38. WSP 1303: 1901(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	79	158	250	348	372	652	236	120	76	652	82
2	21	80	164	236	509	396	574	236	145	68	396	82
3	20	102	168	250	1,220	483	535	222	236	70	285	115
4	19	87	195	175	1,640	678	496	215	348	82	420	155
5	20	85	215	115	1,140	926	509	208	276	72	613	140
6	20	90	222	85	678	1,180	678	208	181	80	635	103
7	22	87	215	110	535	2,200	678	195	142	215	445	94
8	23	112	195	210	470	3,080	535	188	121	505	304	146
9	24	126	174	215	704	3,230	470	181	296	258	218	103
10	46	147	160	180	1,010	3,460	420	181	250	188	194	96
11	63	188	110	170	954	3,420	408	195	266	168	170	91
12	50	294	95	155	678	1,750	420	208	266	266	166	80
13	45	652	165	155	548	1,120	408	174	181	195	152	72
14	41	898	236	190	470	898	360	162	168	155	136	69
15	41	600	215	250	432	758	336	155	208	106	123	64
16	43	396	200	260	396	678	348	152	324	84	125	62
17	48	314	180	225	396	600	420	151	348	70	130	59
18	51	266	165	222	372	548	548	146	285	61	122	62
19	56	266	180	215	348	522	600	150	236	56	113	61
20	70	336	195	236	285	535	561	215	181	56	1,420	76
21	119	348	181	999	266	535	561	398	155	73	1,440	104
22	195	250	174	2,110	258	470	470	613	139	104	780	136
23	129	208	202	2,430	356	420	408	396	126	3,770	376	142
24	102	195	266	1,740	758	408	372	276	116	2,930	242	128
25	90	188	384	954	842	7,150	336	266	129	1,820	188	115
26	80	181	285	704	652	3,200	304	202	122	817	144	115
27	75	181	229	548	496	3,420	285	195	116	432	130	128
28	75	174	250	445	408	3,650	266	168	104	304	115	115
29	75	168	250	372	-----	3,320	266	150	97	314	103	102
30	73	163	266	360	-----	942	250	137	86	898	92	89
31	73	-----	266	348	-----	758	-----	126	-----	1,330	88	-----
TOTAL	1,831	7,251	6,360	14,914	17,169	46,187	13,474	6,705	5,710	15,627	10,828	2,986
MEAN	59.1	242	205	481	613	1,490	449	216	190	304	340	99.5
MAX	195	898	384	2,430	1,640	3,690	678	613	348	3,770	1,440	155
MIN	19	79	95	85	258	372	250	126	86	56	82	59
CFSM	.08	.33	.28	.66	.84	2.04	.62	.30	.26	.69	.47	.14
IN.	.09	.37	.32	.76	.98	2.36	.69	.34	.29	.80	.54	.15
CAL YR 1968	TOTAL 133,453	MEAN 365	MAX 3,610	MIN 19	CFSM .50	IN 6.81						
WTR YR 1969	TOTAL 148,752	MEAN 408	MAX 3,770	MIN 19	CFSM .56	IN 7.55						

PEAK DISCHARGE (BASE, 4,000 CFS).--JULY 23 (1400) 4,350 CFS (19.33 FT).

69-111

JAMES RIVER BASIN

2-0410, Deep Creek near Mannboro, Va.

LOCATION.--Lat 37°16'59", long 77°52'22", Amelia County, on left bank 300 ft upstream from bridge on State Highway 153, 0.9 mile upstream from Sweathouse Creek, 3.4 miles northwest of Mannboro, and 7.5 miles south-east of Amelia.

DRAINAGE AREA.--156 sq mi.

PERIOD OF RECORD.--September 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level. Prior to Sept. 2, 1949, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--23 years, 127 cfs (11.06 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,180 cfs July 24 (gage height, 9.72 ft); minimum, 0.03 cfs Oct. 4, 5 (gage height, 0.41 ft).

Period of record: Maximum discharge, 7,140 cfs Sept. 25, 1947 (gage height, 13.1 ft, from floodmarks), from rating curve extended above 3,800 cfs; minimum, 0.03 cfs Oct. 4, 5, 1968; minimum gage height, 0.29 ft Aug. 9-12, 1957.

Flood in August 1940 reached a stage of 14.8 ft (discharge, 10,000 cfs, from rating curve extended above 3,800 cfs), from information by local resident.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 1203: (1948 calendar year figures only).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1946 TO SEPTEMBER 1949												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	12	25	94	87	94	120	61	21	14	69	19
2	.24	12	20	88	187	117	110	57	24	16	58	20
3	.12	12	15	72	381	158	100	52	38	20	49	66
4	.04	13	38	62	411	209	103	48	35	23	184	77
5	.06	14	39	53	240	270	128	48	27	27	618	51
6	.15	15	35	45	148	301	168	42	24	44	488	35
7	.30	16	30	39	117	397	250	38	21	158	280	29
8	1.0	17	29	36	100	725	170	35	19	235	120	27
9	1.7	18	27	38	216	564	128	36	56	173	77	26
10	2.4	32	24	46	338	376	103	43	138	66	63	23
11	2.8	58	22	44	245	361	103	39	93	104	58	21
12	3.4	78	21	34	150	301	97	36	54	260	52	20
13	4.0	128	23	26	114	220	87	33	40	245	43	19
14	4.8	110	29	23	92	162	80	31	34	77	38	18
15	5.6	74	49	22	77	131	74	30	46	42	37	17
16	6.6	48	44	22	77	114	87	29	110	31	40	17
17	7.5	37	38	25	74	103	131	27	114	24	42	16
18	8.1	37	84	30	69	94	139	26	69	21	33	16
19	9.3	63	32	38	66	106	290	24	42	19	31	17
20	9.9	69	33	54	61	138	392	77	33	17	105	20
21	10	50	31	223	58	120	392	140	28	25	216	40
22	11	39	30	510	95	100	270	190	26	207	185	50
23	14	32	54	620	118	87	176	87	23	329	80	42
24	13	29	82	303	336	92	184	50	21	1,220	49	36
25	14	29	67	200	334	492	110	39	21	1,000	37	70
26	16	30	42	142	194	1,530	94	40	20	387	32	82
27	14	31	39	106	128	579	84	34	20	134	28	63
28	14	29	45	85	100	314	77	32	19	82	25	44
29	13	28	90	82	-----	220	69	29	17	69	23	33
30	14	27	106	80	-----	171	67	25	16	72	21	28
31	13	-----	89	77	-----	142	-----	23	-----	74	20	-----
TOTAL	216.43	1,187	1,310	3,319	4,332	8,786	4,333	1,503	1,249	5,225	3,201	1,042
MEAN	6.98	39.8	42.3	107	163	283	144	48.5	41.6	169	103	34.7
MAX	16	128	106	620	411	1,530	392	190	138	1,220	418	82
MIN	.04	12	21	22	55	87	67	23	16	14	20	16
CFSM	.04	.25	.27	.69	1.04	1.82	.93	.31	.27	1.08	.66	.22
IN.	.05	.28	.31	.79	1.09	2.09	1.03	.36	.30	1.25	.76	.25
CAL YR 1948	TOTAL 22,081.73			MEAN 60.3		MAX 1,500	MIN .04	CFSM .39	IN 5.26			
WTR YR 1949	TOTAL 35,924.43			MEAN 98.4		MAX 1,530	MIN .04	CFSM .63	IN 8.56			

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
3-26	0830	9.48	2,000	7-24	1900	9.72	2,180

69-112

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

2-0425. Chickahominy River near Providence Forge, Va.

LOCATION.--Lat 37°26'10", long 77°03'40", New Kent County, on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, and 1.7 miles downstream from Schmincoe Creek.

DRAINAGE AREA.--249 sq mi.

PERIOD OF RECORD.--January 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6.07 ft above mean sea level.

AVERAGE DISCHARGE.--27 years, 253 cfs (13.80 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,080 cfs July 25 (gage height, 10.79 ft); minimum daily, 1.6 cfs Oct. 10.

Period of record: Maximum discharge, 7,710 cfs Aug. 15, 1955 (gage height, 11.67 ft); minimum daily, 1.6 cfs Oct. 10, 1969; minimum gage height, 1.53 ft Sept. 13, 1965.

REMARKS.--Records fair.

REVISIONS (WATER YEARS).--WSP 1553: 1956.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	3.4	43	119	211	540	603	159	43	29	793	88
2	6.3	3.1	44	115	180	615	497	133	41	33	908	74
3	6.3	3.6	44	118	178	580	388	114	36	34	922	90
4	7.3	4.2	52	130	177	499	306	101	34	37	996	83
5	6.4	5.1	53	99	181	427	278	95	31	40	1,150	110
6	4.5	4.5	50	126	182	370	319	91	28	49	1,700	120
7	3.8	4.0	49	95	182	404	358	81	27	39	1,620	93
8	3.0	4.1	48	80	184	475	346	71	28	38	1,100	77
9	1.9	4.0	42	88	239	533	351	65	61	57	837	146
10	1.6	8.3	38	66	273	619	337	64	139	63	801	138
11	2.3	12	40	57	275	622	334	66	254	66	771	116
12	2.5	25	38	47	303	642	359	71	275	61	663	83
13	2.7	54	38	50	300	658	320	73	185	52	571	71
14	2.7	71	43	45	296	620	272	76	147	45	456	62
15	2.3	105	56	39	316	545	227	71	181	41	382	55
16	2.4	137	43	36	322	472	218	60	257	36	365	50
17	2.7	150	69	37	293	417	245	52	261	30	407	44
18	3.0	159	66	38	241	371	239	45	215	26	373	56
19	3.7	160	66	44	182	325	256	42	222	24	288	62
20	5.1	132	64	61	145	280	257	214	244	22	244	80
21	5.6	100	60	134	122	244	286	355	280	26	302	134
22	3.7	84	57	206	106	218	322	353	319	61	351	124
23	4.4	76	75	248	134	200	337	372	310	139	533	130
24	3.8	72	89	289	260	190	349	353	280	636	552	125
25	3.5	70	100	298	305	230	366	285	254	4,660	1,080	173
26	2.9	64	98	292	387	285	362	212	191	3,620	1,030	190
27	2.9	58	101	325	446	349	336	156	92	2,130	743	170
28	2.3	54	113	365	463	400	285	114	51	1,430	520	140
29	3.6	50	124	376	-----	429	234	79	39	1,230	351	120
30	4.2	40	112	339	-----	537	193	59	32	946	210	100
31	5.3	-----	113	271	-----	634	-----	49	-----	780	123	-----
TOTAL	118.2	1,717.3	2,048	4,613	6,883	13,730	9,560	4,131	4,559	16,480	21,162	3,104
MEAN	3.81	57.2	66.1	149	246	443	319	133	152	532	683	103
MAX	7.3	160	124	376	463	658	603	372	319	4,640	1,700	190
MIN	1.6	3.1	38	36	106	190	193	42	27	22	123	44
CFSM	.02	.23	.27	.60	.99	1.78	1.28	.94	.61	2.13	2.74	.42
IN.	.02	.26	.31	.69	1.03	2.05	1.43	.62	.68	2.46	3.16	.46
CAL YR 1968	TOTAL 43,995.6	MEAN 120	MAX 1,000	MIN 1.6	CFSM .48	IN 6.57						
MTR YR 1969	TOTAL 88,105.5	MEAN 241	MAX 4,660	MIN 1.6	CFSM .97	IN 13.16						

69-113

DISMAL SWAMP BASIN

2-0430. Lake Drummond in Dismal Swamp, Va.

LOCATION.--Lat 36°35'40", long 76°26'20", on left bank in outlet canal, in Chesapeake, 200 ft upstream from dam and gates, 0.5 mile downstream from Lake Drummond, 2.5 miles east of Nansemond County line, 3.1 miles north of North Carolina State line, and 20 miles southwest of Norfolk.

PERIOD OF RECORD.--May 1926 to current year.

GAGE.--Nonrecording gage. Datum of gage is 12.16 ft above mean sea level.

EXTREMES.--Current year: Maximum gage height, 5.40 ft July 29; minimum, 2.86 ft Oct. 19, Nov. 9.
Period of record: Maximum gage height, 6.68 ft Sept. 17, 1960; minimum, -0.67 ft Nov. 3, 1952.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.25	2.97	3.77	4.86	4.97	5.14	5.08	5.15	4.93	5.05	5.12	4.97
2	3.22	2.95	3.81	4.78	4.84	5.08	5.09	5.10	4.93	5.11	5.10	4.99
3	3.20	2.93	3.80	4.78	4.86	4.75	4.93	5.06	5.00	5.09	5.08	4.98
4	3.17	2.92	3.86	4.75	4.85	4.93	4.99	5.06	4.92	5.04	4.87	4.97
5	3.07	2.91	3.94	4.78	4.89	5.02	4.97	5.04	4.87	5.04	4.88	4.97
6	3.08	2.89	3.95	4.68	4.97	5.09	5.09	4.99	4.87	5.02	4.85	5.22
7	3.11	2.88	3.97	4.63	5.11	5.16	5.10	4.99	4.89	5.23	4.85	5.10
8	3.17	2.88	4.07	4.54	5.15	4.92	5.12	5.04	4.78	5.15	4.81	5.04
9	3.12	2.87	4.08	4.53	5.25	4.88	5.13	5.00	4.72	5.07	4.77	5.01
10	3.09	3.00	4.09	4.60	4.90	4.88	5.19	5.07	4.68	5.14	4.77	4.97
11	3.07	2.98	4.10	4.57	4.95	4.88	5.11	5.04	4.67	5.11	4.75	4.99
12	3.04	3.09	4.08	4.55	5.03	4.83	5.01	4.99	4.61	5.05	4.72	4.98
13	3.06	3.12	4.09	4.51	5.09	4.83	5.00	4.96	4.56	5.01	4.72	4.97
14	3.06	3.13	4.11	4.50	5.05	4.83	4.97	4.96	4.93	5.02	4.92	4.99
15	3.02	3.20	4.28	4.52	4.99	4.85	4.97	4.95	4.98	5.01	4.97	4.98
16	2.94	3.24	4.29	4.35	4.97	4.90	4.96	4.89	4.92	5.09	5.17	4.97
17	2.94	3.24	4.31	4.28	4.94	5.03	5.02	4.87	4.82	5.08	5.26	4.97
18	2.89	3.33	4.29	4.34	4.98	5.00	5.00	4.84	4.88	5.09	5.19	5.02
19	2.87	3.40	4.30	4.35	4.93	5.00	5.06	4.80	4.94	5.09	5.19	5.01
20	3.04	3.45	4.34	4.52	4.93	4.97	5.04	4.85	4.89	5.10	5.18	5.05
21	3.03	3.47	4.38	4.77	4.95	4.92	5.03	4.90	4.92	5.10	5.08	5.05
22	3.09	3.46	4.42	4.99	4.93	4.92	5.03	4.95	4.93	5.10	5.07	5.02
23	3.07	3.48	4.52	5.16	4.98	4.95	5.04	4.90	4.90	5.11	5.01	4.97
24	3.08	3.55	4.55	5.13	5.01	5.00	5.02	4.92	4.94	5.18	5.07	5.00
25	3.09	3.65	4.55	5.18	5.02	5.02	5.00	5.04	4.90	5.11	5.07	5.00
26	3.03	3.60	4.54	5.24	5.13	4.88	5.06	5.07	4.97	5.09	5.07	5.03
27	3.08	3.64	4.55	5.19	5.10	4.93	5.11	5.01	5.00	5.03	5.04	5.06
28	3.02	3.64	4.59	5.24	5.07	4.94	5.15	5.01	5.03	5.11	5.02	5.09
29	3.04	3.72	4.63	5.20	-----	4.84	5.18	5.01	5.06	5.25	5.01	5.10
30	3.00	3.73	4.67	5.04	-----	4.94	5.24	5.00	5.00	5.11	5.02	5.11
31	3.00	-----	4.62	4.94	-----	5.05	-----	4.97	-----	5.16	5.02	-----

69-114

DISMAL SWAMP BASIN

2-0435. Cypress Swamp at Cypress Chapel, Va.

LOCATION.--Lat 36°37'30", long 76°36'10", Nansemond County, on right bank 10 ft upstream from bridge on State Highway 32, 0.5 mile downstream from Dragon Swamp, 0.8 mile northwest of Cypress Chapel, and 6.5 miles south of Suffolk.

DRAINAGE AREA.--23 sq mi, approximately.

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 28.65 ft above mean sea level.

AVERAGE DISCHARGE.--16 years, 28.3 cfs (16.71 inches per year).

EXTREMES.--Current year: Maximum discharge, 298 cfs Mar. 2 (gage height, 4.80 ft); no flow at times during year.

Period of record: Maximum discharge, 1,330 cfs Aug. 11, 1967 (gage height, 6.85 ft); no flow at times each year.

REMARKS.--Records fair.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.33	7.4	36	41	24	20	13	0	0	49	0
2	0	.27	7.4	38	91	216	19	10	0	.10	20	0
3	0	.23	9.1	31	138	239	22	5.8	0	2.3	16	0
4	0	.20	14	27	98	130	22	3.8	0	16	52	0
5	0	.23	20	22	69	89	22	2.0	0	5.8	142	0
6	0	.27	18	14	53	70	46	.87	0	3.0	222	0
7	0	.30	13	7.0	47	162	83	.38	0	80	94	0
8	0	.33	16	6.6	45	222	96	.14	0	79	38	0
9	0	.27	16	6.0	67	128	38	.08	0	56	17	.30
10	0	7.9	15	5.8	49	140	29	.15	0	26	12	1.5
11	0	19	12	5.4	66	156	28	.11	0	20	16	.18
12	0	43	10	5.5	49	107	27	.02	0	14	13	.04
13	0	69	12	5.5	40	78	22	0	0	7.4	5.4	0
14	0	56	22	5.8	30	62	19	0	.60	2.3	16	0
15	0	38	34	6.2	27	52	17	0	1.2	.38	82	0
16	0	26	31	7.0	26	43	23	0	24	.07	65	0
17	0	21	25	6.5	25	37	74	0	43	0	47	0
18	0	21	23	9.0	23	34	55	0	10	0	20	0
19	1.3	28	21	18	22	82	46	0	62	0	10	.14
20	18	30	21	60	20	162	38	5.8	37	0	7.4	.87
21	24	26	20	212	19	98	32	47	10	0	7.4	23
22	13	21	18	220	18	76	28	16	16	0	4.2	20
23	8.5	18	24	146	20	60	36	4.3	16	0	1.2	10
24	4.6	14	29	94	33	52	30	1.5	2.9	0	.30	4.2
25	2.6	17	25	75	33	57	23	4.4	2.0	0	.10	4.6
26	1.3	19	20	59	26	50	19	6.8	1.1	0	0	9.3
27	.55	18	19	48	22	37	15	2.0	.17	0	0	3.8
28	.42	15	20	39	19	30	10	.42	.02	3.2	0	2.0
29	.68	13	24	34	-----	24	11	.11	0	56	0	.68
30	.60	10	23	31	-----	25	14	0	0	56	0	.33
31	.42	-----	23	29	-----	22	-----	0	-----	51	0	-----
TOTAL	75.97	532.33	591.9	1,313.5	1,256	2,766	946	124.73	225.49	478.55	959.80	76.94
MEAN	2.45	17.7	19.1	42.4	44.9	89.2	31.5	4.02	7.53	15.4	31.0	2.54
MAX	24	69	34	220	138	239	83	47	62	80	222	23
MIN	0	.20	7.4	5.5	18	22	10	0	0	0	0	0
CFSM	.11	.77	.83	1.84	1.95	3.88	1.37	.17	.33	.67	1.39	.11
IN.	.12	.86	.96	2.12	2.03	4.47	1.53	.20	.37	.77	1.55	.12
CAL VR 1968	TOTAL 6,908.00			MEAN 18.9	MAX 421	MIN 0	CFSM .82 IN 11.17					
WTR VR 1969	TOTAL 9,347.81			MEAN 25.6	MAX 239	MIN 0	CFSM 1.11 IN 15.12					

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-23	2130	4.67	252	3-8	0300	4.62	256
3-2	2330	4.80	298	8-5	2330	4.66	265

69-115

JAMES RIVER BASIN

02034500 Willis River at Flanagan Mills, Va.

LOCATION.--Lat 37°40'00", long 78°10'00", Cumberland County, on left bank 15 ft upstream from bridge on State Highway 690, 0.4 mile east of Flanagan Mills, 6.9 miles upstream from mouth, and 7.7 miles downstream from Reynolds Creek.

DRAINAGE AREA.--262 sq mi (revised).

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 178.98 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 3, 1935, nonrecording gage at site 1,300 ft upstream at same datum.

AVERAGE DISCHARGE.--44 years, 231 cfs (11.97 inches per year).

EXTREMES.--Current year: Maximum discharge, 991 cfs Jan. 2 (gage height, 10.08 ft); minimum, 3.4 cfs Sept. 30 (gage height, 2.42 ft).
Period of record: Maximum discharge, 9,580 cfs Apr. 27, 1937 (gage height, 23.86 ft, from floodmarks), from rating curve extended above 5,800 cfs on basis of velocity-area studies, with backwater correction; minimum, 1.5 cfs Sept. 13, 14, 1966 (gage height, 2.26 ft).

REMARKS.--Records good. Complete regulation of flow from Trice Lake, 0.4 mile upstream (total capacity, about 1,100 acre-ft), tributary to Willis River, slightly affects flow at gage.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 872: 1936-37. WSP 892: 1928-29, 1932-34(M). WSP 972: 1937, 1940. WSP 1203: 1929. WSP 1303: 1928(M), 1929, 1930(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	46	55	970	141	130	558	242	55	16	70	12
2	41	46	54	970	154	125	776	208	53	16	73	10
3	55	55	52	699	535	124	950	180	50	26	82	9.9
4	64	59	52	316	713	125	771	212	49	27	49	6.7
5	71	73	51	212	622	141	526	421	47	26	36	8.4
6	54	78	50	180	365	154	339	432	46	26	28	9.0
7	46	76	52	186	246	141	280	302	46	22	30	11
8	46	75	88	173	212	125	248	202	46	20	32	13
9	50	70	121	117	199	118	230	169	44	22	43	13
10	57	70	135	107	564	112	213	147	45	58	47	11
11	54	69	260	106	657	107	196	129	51	62	53	11
12	51	74	260	108	590	105	180	119	47	85	60	9.0
13	46	72	192	123	344	121	174	107	43	60	63	8.4
14	46	73	120	125	246	130	226	100	38	42	47	7.8
15	44	82	96	123	206	130	274	93	36	36	36	7.2
16	42	75	86	121	206	117	234	88	38	34	30	7.0
17	41	60	74	120	260	103	218	98	41	31	28	6.4
18	43	50	64	246	407	132	196	130	39	28	30	6.1
19	41	52	64	407	510	281	180	129	35	29	46	5.8
20	41	58	64	385	450	316	196	109	31	22	41	5.0
21	42	68	64	225	334	323	224	92	30	21	34	5.0
22	42	65	184	165	246	365	208	82	26	26	28	5.6
23	41	63	351	145	212	542	191	76	24	40	24	7.5
24	41	57	302	135	186	510	196	71	22	44	26	7.8
25	40	54	186	140	173	393	186	66	20	43	27	7.0
26	41	55	140	154	160	267	220	63	20	46	24	5.8
27	43	60	130	180	147	225	562	70	20	45	23	4.6
28	46	58	140	166	135	199	526	64	20	38	20	4.6
29	47	57	147	147	-----	432	407	65	19	32	17	4.2
30	47	56	216	154	-----	639	306	60	18	28	15	3.6
31	46	-----	750	154	-----	622	-----	56	-----	39	13	-----
TOTAL	1,446	1,906	4,602	7,539	9,220	7,354	9,991	4,387	1,099	1,086	1,175	235.2
MEAN	46.6	63.5	148	243	329	237	313	142	36.6	35.0	37.9	7.84
MAX	71	82	750	970	713	639	950	432	55	85	82	13
MIN	37	46	50	106	135	103	174	54	18	16	13	3.6
CFSM	.18	.24	.56	.93	1.26	.90	1.27	.54	.14	.13	.14	.030
IN.	.21	.27	.65	1.07	1.31	1.04	1.42	.62	.16	.15	.17	.03

CAL YR 1969 TOTAL 61,734 MEAN 169 MAX 1,080 MIN 22 CFSM .65 IN 8.77
WAT YR 1970 TOTAL 50,040.2 MEAN 137 MAX 970 MIN 3.6 CFSM .52 IN 7.10

PEAK DISCHARGE (BASE, 1,700 CFS).--NO PEAK ABOVE BASE.

70-107

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

02035000 James River at Cartersville, Va.

LOCATION.--Lat 37°40'15", long 78°05'10", Goochland County, on left bank 200 ft downstream from bridge on State Highway 45 between Pemberton and Cartersville, 1.8 miles downstream from Willis River, and at mile 152.4.

DRAINAGE AREA.--6,257 sq mi (revised).

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 161.57 ft above mean sea level (levels by Corps of Engineers). Prior to June 4, 1927, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--72 years, 6,874 cfs (14.92 inches per year).

EXTREMES.--Current year: Maximum discharge, 64,900 cfs Jan. 2 (gage height, 19.03 ft, from floodmarks); minimum daily, 650 cfs Sept. 28.
Period of record: Maximum discharge, 250,000 cfs Aug. 21, 1969 (gage height, 33.75 ft, from floodmarks), from rating curve extended above 160,000 cfs on basis of slope-conveyance study; minimum, 316 cfs Sept. 13, 14, 1966 (gage height, 0.02 ft); minimum daily, 330 cfs Sept. 14, 1966.

REMARKS.--Records good. Moderate diurnal fluctuation caused by powerplants above station.

REVISIONS (WATER YEARS).--WSP 582: Drainage area. WSP 972: 1936(M). WSP 1203: 1901-2(M), 1924-25(M), 1928(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,740	1,420	1,860	52,800	8,810	6,460	13,400	9,530	2,170	1,180	1,900	947
2	1,820	1,520	1,970	60,400	8,600	5,940	16,800	8,690	2,140	1,090	1,500	994
3	2,440	1,750	1,980	29,500	15,600	5,600	28,400	7,650	2,340	1,100	2,290	894
4	4,950	2,550	1,770	18,200	18,200	5,160	19,400	7,720	1,950	1,530	1,730	988
5	3,970	2,170	1,830	13,400	15,500	5,190	16,800	9,060	2,130	1,640	1,540	786
6	3,000	2,650	1,700	10,700	12,400	5,310	13,300	8,910	1,930	1,380	1,280	769
7	2,620	2,580	1,800	9,120	10,100	5,670	11,400	7,850	2,010	1,220	1,180	770
8	2,830	2,370	2,320	8,160	8,710	6,040	10,200	6,710	2,040	1,110	1,240	743
9	2,530	2,350	3,210	6,700	8,120	5,950	9,080	6,230	2,040	1,100	1,510	702
10	2,400	2,240	2,960	5,250	13,400	5,460	8,190	5,490	2,040	1,100	2,150	701
11	2,140	2,250	7,270	5,130	13,200	5,200	7,310	5,060	1,900	1,680	2,410	667
12	2,050	2,080	11,200	5,100	12,200	4,770	6,690	4,810	1,770	1,650	3,380	687
13	1,800	2,340	17,600	5,500	10,300	4,910	6,410	4,380	1,710	4,050	3,020	1,200
14	1,730	1,860	12,200	4,900	8,650	5,000	7,210	4,260	1,750	2,670	3,340	1,100
15	1,930	2,000	8,800	4,700	5,030	4,430	7,630	3,950	1,740	3,430	2,350	1,060
16	1,730	2,140	7,240	4,300	7,530	4,200	7,410	3,750	1,840	2,470	1,900	934
17	1,560	1,580	6,010	4,000	7,930	4,250	8,540	3,990	1,820	1,550	1,610	773
18	1,490	1,860	5,060	5,200	9,610	4,060	7,800	6,190	1,870	1,440	1,490	720
19	1,840	1,710	4,930	6,200	12,100	5,640	7,020	4,780	1,720	1,130	1,620	762
20	1,470	2,120	3,630	8,800	14,400	5,620	8,760	4,050	1,730	1,050	1,360	958
21	1,380	2,450	3,600	6,500	16,600	5,890	6,350	3,740	1,420	998	1,460	958
22	1,700	2,480	4,210	6,780	14,600	6,260	8,190	3,250	1,440	1,790	1,640	874
23	1,620	2,320	5,980	5,400	11,700	8,310	5,600	3,120	1,360	1,560	2,240	784
24	1,750	2,200	4,700	4,800	9,860	7,710	5,860	2,920	1,110	2,000	1,340	700
25	1,410	2,400	3,740	5,000	8,910	7,020	5,600	3,010	1,400	2,570	2,510	670
26	1,310	2,620	3,530	4,900	8,190	6,680	7,400	3,340	1,270	1,730	1,370	660
27	1,370	2,340	3,470	4,800	7,320	6,340	8,700	3,240	1,170	1,610	1,230	660
28	1,300	2,430	4,020	4,900	6,860	6,080	8,000	2,890	1,150	1,500	1,170	650
29	1,420	2,090	3,560	5,700	-----	7,280	8,400	2,840	1,100	2,130	1,100	680
30	1,610	2,180	4,130	5,600	-----	11,500	8,870	2,500	1,080	1,820	1,060	700
31	1,350	-----	18,900	6,030	-----	10,400	-----	2,210	-----	1,700	1,090	-----
TOTAL	61,560	65,070	165,130	325,190	307,330	188,330	290,720	155,910	51,140	52,928	52,810	24,491
MEAN	1,984	2,169	5,327	10,490	10,990	6,075	9,491	5,029	1,705	1,707	1,704	816
MAX	4,950	2,650	18,900	60,400	18,200	11,580	28,400	9,530	2,340	4,050	3,380	1,200
MIN	1,250	1,420	1,700	4,000	6,850	4,060	5,600	2,810	1,090	998	1,060	650
CFSM	.37	.35	.85	1.48	1.75	.97	1.55	.80	.27	.27	.27	.13
IN.	.37	.39	.98	1.93	1.83	1.12	1.73	.93	.30	.31	.31	.15

CAL YR 1969 TOTAL 2,103,270 MEAN 5,762 MAX 219,000 MIN 1,250 CFSM .92 IN 12.50
WAT YR 1970 TOTAL 1,740,609 MEAN 4,760 MAX 60,400 MIN 650 CFSM .76 IN 10.35

PEAK DISCHARGE (BASE, 40,000 CFS).--JAN. 2 (0730) 64,900 CFS (19.03 FT).

70-108

JAMES RIVER BASIN

02036500 Fine Creek at Fine Creek Mills, Va.

LOCATION.--Lat 37°35'52", Long 77°49'12", Powhatan County, on right bank 75 ft downstream from bridge on State Highway 711, at Fine Creek Mills, 0.8 mile upstream from mouth, and 6.7 miles northeast of Powhatan.

DRAINAGE AREA.--22.1 sq mi (revised).

PERIOD OF RECORD.--July 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 156.59 ft above mean sea level. Prior to Oct. 28, 1953, nonrecording gage and crest-stage gage at site 75 ft upstream at same datum.

AVERAGE DISCHARGE.--26 years, 17.9 cfs (11.00 inches per year).

EXTREMES.--Current year: Maximum discharge, 104 cfs Dec. 31 (gage height, 2.51 ft); minimum, 0.36 cfs Sept. 30 (gage height, 1.53 ft).
Period of record: Maximum discharge, 3,640 cfs Oct. 21, 1961 (gage height, 8.35 ft); minimum daily, 0.08 cfs Oct. 1, 1968; minimum gage height, 1.53 ft Sept. 30, 1970.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 1203: 1948. WSP 1303: 1945(M). WSP 1383: 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	4.2	4.6	75	10	9.3	37	13	5.1	1.5	3.4	.90
2	4.2	6.0	4.2	34	13	9.3	73	11	4.3	1.5	2.6	1.0
3	8.6	6.4	4.6	26	51	8.6	64	10	4.3	4.3	2.4	.85
4	5.2	5.6	4.2	20	34	9.9	35	40	3.2	3.2	1.8	1.1
5	4.2	4.9	4.6	16	19	16	27	46	3.2	6.2	1.6	2.6
6	4.2	4.9	3.9	16	16	11	22	22	3.2	3.7	1.5	1.2
7	3.9	4.9	6.0	17	15	10	20	16	3.7	2.6	2.0	.90
8	5.2	5.2	16	14	14	11	17	15	3.4	2.0	2.0	.85
9	7.9	6.6	7.9	11	16	9.3	16	12	2.4	2.6	1.8	.90
10	5.6	6.8	20	9.3	53	8.6	15	9.9	2.6	38	4.0	.90
11	4.6	5.6	45	9.3	29	8.6	13	9.3	2.4	9.3	4.7	.85
12	4.6	6.0	13	11	14	9.3	13	9.3	2.0	5.1	3.2	.80
13	4.2	6.4	9.2	13	14	13	13	8.1	1.3	3.7	2.6	.70
14	4.6	6.0	7.9	11	13	10	46	7.6	1.8	2.6	2.4	.70
15	3.9	6.0	6.9	10	12	9.3	29	6.7	1.5	2.6	2.6	.70
16	3.9	5.2	6.4	9.9	13	8.1	20	7.1	1.8	3.2	2.6	.75
17	3.9	4.9	5.6	12	27	8.1	17	9.9	1.6	2.6	2.0	.75
18	3.6	4.9	5.2	37	32	24	16	10	1.5	2.0	2.4	.70
19	3.3	5.6	6.0	22	32	29	15	7.6	1.4	1.6	2.2	.70
20	3.6	12	5.6	16	20	26	26	6.7	1.3	1.5	8.6	.70
21	3.3	6.0	4.9	12	15	29	21	6.7	1.3	2.9	3.4	.65
22	3.0	4.9	59	10	14	32	16	4.2	1.3	5.8	2.2	.70
23	3.0	4.9	45	9.6	13	35	17	6.2	1.3	19	1.8	.65
24	3.0	4.6	21	9.3	11	24	19	5.8	1.1	26	2.0	.65
25	3.3	4.2	15	10	11	19	15	5.5	4.6	8.6	1.6	.60
26	3.9	4.2	15	16	10	17	24	5.8	14	5.1	1.5	.50
27	4.2	4.2	22	13	9.9	19	39	6.2	4.0	4.0	1.5	.46
28	4.2	4.2	16	11	9.9	15	24	5.5	2.2	3.7	1.3	.43
29	3.9	4.2	14	11	-----	57	20	5.1	1.8	3.7	1.3	.43
30	3.9	4.2	30	16	-----	56	16	5.1	2.0	4.3	1.2	.40
31	4.2	-----	81	12	-----	49	-----	5.5	-----	4.0	1.1	-----
TOTAL	132.1	165.7	511.6	519.4	545.8	600.4	745	340.8	86.1	186.9	75.3	24.02
MEAN	4.26	5.32	16.5	16.8	19.5	19.4	24.8	11.0	2.87	6.03	2.43	.80
MAX	8.6	12	81	75	93	57	73	46	14	38	8.6	2.6
MIN	3.0	4.2	3.9	9.3	9.9	8.1	13	5.1	1.1	1.5	1.1	.40
CF5M	.19	.25	.75	.76	.88	.88	1.12	.50	.13	.27	.11	.036
IN.	.22	.28	.86	.87	.92	1.01	1.25	.57	.14	.31	.13	.04

CAL YR 1969 TOTAL 5,175.3 MEAN 14.2 MAX 217 MIN 1.4 CF5M .64 IN 8.71
WAT YR 1970 TOTAL 3,933.12 MEAN 10.8 MAX 81 MIN .40 CF5M .49 IN 6.62

PEAK DISCHARGE (BASE, 200 CFS).--NO PEAK ABOVE BASE.

70-109

JAMES RIVER BASIN

02037000 James River & Kanawha Canal near Richmond, Va.

LOCATION.--Lat 37°33'52", long 77°34'28", Henrico County, on left bank 75 ft downstream from canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Boshier Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond.

PERIOD OF RECORD.--September 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 106.07 ft above mean sea level. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

AVERAGE DISCHARGE.--34 years, 856 cfs.

EXTREMES.--Current year: Maximum discharge, 1,020 cfs Dec. 12 (gage height, 8.61 ft); slight leakage through gates when closed at times during year.
Period of record: Maximum gage height, 24.7 ft Aug. 21, 1969, from high-water mark in gage house (interchange of flow with James River makes maximum discharge indeterminate); no flow at times when head gates were closed.

REMARKS.--Records good. Canal diverts from James River 1,200 ft above Boshier Dam and discharges into river at several points below gaging station near Richmond. Above 2,540 cfs (gage height, 14.5 ft) there is interchange of flow with James River; discharge above 2,540 cfs included in discharge for James River near Richmond. Figures given show flow in canal only; for record of flow of James River near Richmond, see sta 02037500.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	775	760	775	852	884	900	900	900	775	731	805	745
2	775	760	775	836	900	900	900	900	775	745	775	731
3	712	760	775	852	900	900	920	868	775	745	730	745
4	354	790	775	884	900	884	900	900	775	745	790	731
5	852	790	775	868	884	884	900	920	690	760	775	745
6	836	790	775	900	900	884	900	920	431	775	775	731
7	820	805	775	884	884	884	900	900	790	760	760	731
8	820	790	790	868	884	900	900	900	790	745	745	717
9	805	790	805	868	884	900	884	868	790	745	760	717
10	805	790	836	836	900	884	900	868	790	760	775	717
11	805	790	868	775	920	884	900	836	790	775	790	717
12	790	790	940	790	900	868	884	836	790	775	820	717
13	790	775	900	805	900	868	884	836	775	905	820	717
14	790	790	884	694	900	868	884	820	775	820	836	760
15	775	775	868	802	900	868	884	820	775	805	820	760
16	775	775	868	781	900	852	884	820	775	820	790	745
17	775	775	868	836	900	852	900	820	775	790	775	731
18	775	760	852	868	900	852	900	852	775	760	775	731
19	775	775	852	900	920	868	884	868	775	745	760	717
20	775	775	852	884	940	884	884	836	775	745	775	731
21	775	790	836	870	940	868	884	820	775	745	745	731
22	760	790	852	870	920	884	868	820	760	745	731	731
23	775	790	868	870	920	900	868	805	760	775	731	731
24	775	790	852	870	900	900	868	805	760	775	731	731
25	760	790	836	870	900	884	868	790	745	790	731	717
26	760	790	836	900	900	884	868	805	775	790	731	717
27	760	790	836	868	900	884	884	805	760	775	731	703
28	760	790	852	884	900	900	900	790	745	760	632	703
29	760	790	852	884	-----	900	884	790	745	760	100	703
30	760	775	852	884	-----	920	900	775	745	790	439	703
31	760	-----	868	884	-----	900	-----	775	-----	775	745	-----
TOTAL	23,784	23,490	25,948	26,437	25,280	27,408	26,634	26,068	22,731	23,831	22,758	21,306
MEAN	767	763	837	853	803	884	889	841	758	769	734	727
MAX	852	805	940	900	940	920	920	920	790	820	836	760
MIN	354	760	775	694	884	852	868	775	431	731	100	703

CAL YR 1969 TOTAL 297,170 MEAN 814 MAX 2,540 MIN 62
WAT YR 1970 TOTAL 296,225 MEAN 812 MAX 940 MIN 100

JAMES RIVER BASIN

02037500 James River near Richmond, Va.

LOCATION.--Lat 37°33'47", long 77°32'50", Henrico County, on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 0.5 mile west of city limits of Richmond, 1.7 miles downstream from Boshier Dam, 3.3 miles upstream from Powhite Creek, and at mile 111.7.
 DRAINAGE AREA.--6,758 sq mi (revised).
 PERIOD OF RECORD.--October 1934 to current year. Gage-height records collected in vicinity of Mayo's Bridge, at mile 104.6, 1876-1956, and at mile 103.7, since 1957, are contained in reports of the National Weather Service (formerly U.S. Weather Bureau).
 GAGE.--Water-stage recorder. Control is Williams Island Dams which divert flow for City of Richmond water supply. Datum of gage is 98.82 ft above mean sea level.
 AVERAGE DISCHARGE.--35 years, 7,076 cfs (14.22 inches per year), includes flow in James River & Kanawha Canal.
 EXTREMES.--Current year: Maximum discharge, 65,600 cfs Jan. 2 (gage height, 14.92 ft); minimum, 25 cfs Sept. 10. Period of record: Maximum discharge, 222,000 cfs (includes Canal flow) Aug. 21, 1969 (gage height, 24.95 ft); minimum daily, about 10 cfs Sept. 8-15, 1966, Sept. 30, Oct. 5, 6, 1968; minimum daily discharge of James River and James River & Kanawha Canal combined, 370 cfs Sept. 13, 1966.
 Probable minimum daily discharge, since 1899, of James River and James River & Kanawha Canal combined, about 350 cfs in October 1930. (Minimum daily of record for James River at Cartersville, 330 cfs Sept. 14, 1966.)
 REMARKS.--Records good. City of Richmond takes from 40 to 90 cfs for water supply from river below gage except during periods of low flow when supply is obtained from James River & Kanawha Canal. Flow regulated by power-plants above station. Above 18.2 ft stage there is interchange of flow with James River & Kanawha Canal. Records of daily discharge include diversion by City of Richmond, but do not include flow in James River & Kanawha Canal which diverts around station. For canal records, see sta 02037000.
 COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.
 REVISIONS (WATER YEARS).--WSP 972: 1936(M). WSP 1433: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,490	910	1,450	40,100	6,480	6,480	13,100	9,130	1,830	328	2,160	362
2	1,370	1,140	1,300	62,700	8,940	5,850	15,000	9,130	1,740	432	1,210	221
3	1,650	1,100	1,140	46,600	10,500	5,550	26,700	8,020	1,720	415	1,620	248
4	3,940	1,050	1,460	22,100	19,900	4,980	25,400	7,490	1,690	398	1,510	208
5	3,700	1,860	1,210	15,400	16,900	4,980	19,900	8,760	1,460	730	1,010	310
6	3,150	1,760	1,230	11,800	14,000	5,120	15,900	9,510	2,070	990	770	154
7	2,450	2,140	1,230	9,510	10,900	5,260	12,600	8,200	1,350	710	730	113
8	2,350	2,040	1,620	8,020	9,130	5,550	10,900	7,150	1,460	510	640	104
9	2,280	1,920	2,190	6,650	8,020	5,850	10,100	6,320	1,490	450	750	95
10	2,090	1,790	2,980	5,400	10,100	5,400	8,750	5,550	1,490	770	1,190	68
11	1,920	1,740	4,200	4,300	15,400	5,120	8,020	4,980	1,510	1,190	1,690	86
12	1,670	1,690	9,590	3,800	12,600	4,710	6,980	4,580	1,370	1,050	2,650	96
13	1,580	1,560	14,300	4,200	11,300	4,710	6,480	4,320	1,160	2,090	2,310	86
14	1,400	1,740	14,600	5,500	9,130	4,840	6,640	4,080	1,100	2,800	2,800	590
15	1,230	1,300	9,330	4,700	8,020	4,880	7,840	3,820	1,140	1,920	2,400	510
16	1,440	1,460	7,320	4,320	7,660	4,200	7,490	3,580	1,190	2,900	1,740	490
17	1,260	1,530	6,160	4,070	7,660	4,080	7,840	3,700	1,230	1,790	1,330	310
18	990	1,030	4,840	4,080	8,570	4,080	8,380	4,450	1,280	950	1,070	208
19	1,010	1,370	4,450	8,980	10,900	4,710	7,490	5,400	1,230	830	930	140
20	1,140	1,330	3,950	8,380	13,500	5,850	6,810	4,080	1,140	550	1,330	180
21	990	1,740	3,080	6,800	16,400	5,700	6,810	3,580	1,100	510	810	328
22	1,050	2,040	3,700	5,700	15,900	6,160	6,160	3,200	810	590	1,050	345
23	1,050	1,810	5,260	4,850	13,100	7,660	6,010	2,750	790	1,370	1,050	262
24	1,030	1,760	5,550	4,200	10,500	8,570	5,550	2,680	690	1,230	670	208
25	950	1,670	3,950	4,450	9,130	7,490	5,550	2,450	510	1,880	810	122
26	810	1,920	3,580	5,480	8,380	6,980	5,850	2,700	1,010	1,920	910	77
27	930	2,040	3,580	5,400	7,660	6,480	7,900	3,000	630	1,190	770	41
28	890	1,790	3,450	4,930	6,810	6,160	9,700	2,620	490	1,070	650	32
29	890	1,860	3,450	4,840	-----	6,320	8,570	2,350	450	950	1,190	32
30	910	1,560	3,450	4,840	-----	11,500	8,760	2,040	380	1,740	870	32
31	1,010	-----	8,820	5,400	-----	11,800	-----	2,020	-----	1,560	380	-----
TOTAL	48,620	48,650	142,820	335,550	307,490	186,720	302,180	151,640	35,510	35,813	39,010	6,048
MEAN	1,568	1,622	4,607	10,820	10,980	6,023	10,070	4,892	1,184	1,155	1,258	202
MAX	3,940	2,140	14,600	62,700	19,900	11,800	26,700	9,510	2,070	2,900	2,800	590
MIN	810	910	1,140	3,800	6,480	4,080	5,550	2,020	380	328	734	32
(*)	767	783	837	853	903	884	889	841	758	769	734	727
MEAN*	2,335	2,405	5,444	11,673	11,883	6,907	10,959	5,733	1,942	1,924	1,992	929
CFSM*	.35	.36	.81	1.73	1.76	1.02	1.62	.85	.29	.28	.29	.14
IN*	.40	.40	.93	1.99	1.83	1.18	1.81	.98	.32	.32	.33	.16

CAL YR 1969 TOTAL 2,026,475 MEAN 5,552 MAX 195,000 MIN 690 MEAN* 6,366 CFSM* .94 IN* 12.79
 MAY YR 1970 TOTAL 1,640,051 MEAN 4,493 MAX 62,700 MIN 32 MEAN* 5,305 CFSM* .78 IN* 10.65

PEAK DISCHARGE (BASE, 50,000 CFS).--JAN. 2 (2000) 65,600 CFS (14.92 FT).

* DIVERSION, IN CUBIC FEET PER SECOND, BY JAMES RIVER & KANAWHA CANAL.
 * ADJUSTED FOR DIVERSION.

JAMES RIVER BASIN

02038000 Falling Creek near Chesterfield, Va.

LOCATION.--Lat 37°26'37", long 77°31'21", Chesterfield County, on left bank at upstream side of bridge on State Highway 651, 0.8 mile downstream from Licking Creek, 2.8 miles upstream from Pocoshock Creek, and 4.7 miles northwest of Chesterfield.

DRAINAGE AREA.--32.8 sq mi.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 126.39 ft above mean sea level.

AVERAGE DISCHARGE.--15 years, 29.2 cfs (12.09 inches per year).

EXTREMES.--Current year: Maximum discharge, 196 cfs Aug. 20 (gage height, 5.34 ft); minimum, 0.51 cfs Sept. 27, 28 (gage height, 1.77 ft).
Period of record: Maximum discharge, 2,510 cfs Sept. 12, 1960 (gage height, 12.67 ft); minimum, 0.01 cfs Sept. 20, Oct. 3, 1968.

REMARKS.--Records good except those below 10 cfs, which are fair.

REVISIONS (WATER YEARS).--WRD Va. 1961: 1957(M), 1958-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.5	5.7	67	20	22	76	31	4.3	2.8	5.7	1.4
2	19	8.0	5.4	47	27	21	107	27	3.9	6.0	4.5	1.6
3	37	8.3	5.4	37	59	21	99	25	3.6	28	3.4	1.5
4	18	7.3	5.0	31	56	23	67	33	3.4	11	3.4	1.6
5	8.9	6.4	5.9	26	38	32	50	45	3.5	24	2.9	1.8
6	5.7	7.5	4.5	26	31	28	42	35	4.3	11	2.8	1.8
7	4.7	7.3	6.9	29	28	23	39	26	5.7	5.4	2.8	1.6
8	5.4	6.4	23	24	26	22	34	22	5.2	3.7	2.7	1.3
9	7.8	10	19	20	28	20	32	20	4.2	6.4	2.8	1.4
10	7.1	10	46	18	79	19	30	18	3.5	102	5.7	1.4
11	5.4	8.9	110	17	70	18	26	15	3.3	66	6.6	1.4
12	4.5	8.9	56	19	46	19	24	13	3.0	21	4.5	1.6
13	4.3	9.5	29	21	36	20	23	12	2.8	11	3.6	1.5
14	4.3	9.5	23	20	31	20	37	10	2.6	13	3.0	1.4
15	4.0	11	20	19	28	18	41	9.5	2.6	16	2.7	1.3
16	3.5	6.9	17	18	29	17	34	10	2.6	8.9	2.6	1.2
17	3.5	5.9	14	19	59	16	29	15	2.4	5.7	2.5	1.1
18	3.3	5.5	13	28	70	29	27	18	2.3	4.7	2.4	1.1
19	3.3	6.9	13	26	68	45	24	13	2.2	4.0	3.2	1.2
20	3.3	19	12	22	50	44	29	8.9	2.1	3.9	149	1.1
21	3.8	15	11	17	38	54	28	8.3	2.2	5.4	49	1.1
22	3.6	11	45	15	33	56	22	7.8	2.2	24	15	1.0
23	3.6	8.9	42	15	31	64	26	6.4	2.0	66	7.8	.95
24	3.3	7.5	29	16	28	49	31	5.4	2.0	95	5.0	.88
25	3.3	7.1	22	17	27	38	25	13	31	29	3.9	.80
26	3.6	6.4	102	23	27	34	39	12	62	15	3.0	.74
27	4.3	5.9	99	21	24	31	85	21	14	10	2.6	.56
28	4.9	5.7	59	18	23	27	64	10	5.6	7.3	2.2	.61
29	4.5	5.9	45	19	-----	52	51	6.2	3.8	5.7	2.0	.64
30	4.3	5.7	56	26	-----	64	40	5.0	3.2	6.9	1.8	.58
31	4.7	-----	76	22	-----	78	-----	4.7	-----	5.9	1.7	-----
TOTAL	201.5	247.8	1,019.8	745	1,110	1,024	1,281	806.2	195.5	625.5	311.0	36.56
MEAN	6.50	8.26	32.9	24.0	39.6	33.0	42.7	16.3	6.52	20.2	10.0	1.22
MAX	37	19	110	67	79	78	107	45	62	102	149	1.8
MIN	3.3	5.5	4.5	15	20	14	22	4.7	2.0	2.8	1.7	.56
CFSM	.20	.25	1.00	.73	1.21	1.01	1.30	.50	.20	.62	.30	.037
IN.	.23	.28	1.16	.84	1.26	1.16	1.45	.57	.22	.71	.35	.04

CAL YR 1969 TOTAL 8,038.50 MEAN 22.0 MAX 587 MIN 1.7 CFSM .67 IN 9.12
WAT YR 1970 TOTAL 7,303.86 MEAN 20.0 MAX 149 MIN .56 CFSM .61 IN 8.28

PEAK DISCHARGE (BASE, 350 CFS).--NO PEAK ABOVE BASE.

70-112

JAMES RIVER BASIN

02038850 Holiday Creek near Andersonville, Va.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°24'55", long 78°38'10", Appomattox County, on right bank 150 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville.

DRAINAGE AREA.--8.53 sq mi.

PERIOD OF RECORD.--April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 475 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 107 cfs July 9 (gage height, 2.26 ft); minimum, 0.55 cfs part of each day Sept. 16-18, 26.
Period of record: Maximum discharge, 377 cfs June 23, 1967 (gage height, 3.80 ft); minimum, 0.10 cfs Sept. 11, 12, 1966; minimum gage height, 0.75 ft July 28, 1966.

REMARKS.--Records good except those for periods of no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.4	2.2	17	4.5	4.2	9.8	5.5	2.9	1.4	1.6	.72
2	2.9	2.8	2.1	8.4	5.0	4.2	23	5.1	2.9	1.4	1.5	.72
3	2.7	2.4	2.2	4.8	19	4.2	14	5.1	2.7	1.5	1.3	.80
4	2.3	2.4	2.1	6.2	17	4.9	8.7	15	2.6	1.5	1.3	.98
5	2.2	2.4	2.3	7.3	10	5.3	7.3	12	2.6	1.9	1.2	1.1
6	2.2	2.4	2.4	4.9	7.0	4.7	6.8	7.6	2.9	1.7	1.3	.86
7	2.3	2.4	5.1	5.1	6.0	4.4	6.5	6.2	3.8	1.5	1.8	.80
8	3.0	2.6	7.3	6.5	5.4	4.2	5.8	5.8	2.7	1.4	1.7	.72
9	2.9	3.0	4.2	4.0	8.0	4.0	5.8	5.3	2.4	14	1.8	.72
10	2.6	2.6	3.5	3.2	32	4.0	5.5	4.7	2.3	12	3.8	.72
11	2.4	2.4	13	3.3	20	4.0	5.3	4.7	2.3	3.5	2.4	.98
12	2.4	2.6	10	3.7	11	5.8	5.1	4.4	2.2	2.6	1.7	.86
13	2.4	2.4	5.0	3.4	9.0	5.8	5.1	4.2	2.1	2.3	1.4	.80
14	2.4	2.6	3.7	3.5	7.0	4.9	7.6	4.0	2.1	2.7	1.3	.66
15	2.3	2.4	3.3	3.7	6.0	4.4	6.0	3.8	2.1	3.2	1.3	.66
16	2.3	2.3	2.9	3.8	7.4	4.2	5.3	4.0	2.2	3.8	1.3	.60
17	2.6	2.2	2.7	4.0	9.0	4.0	5.1	8.2	2.1	2.3	1.6	.55
18	2.6	2.2	2.4	13	13	9.8	5.1	5.3	2.0	2.1	1.2	.80
19	2.6	3.7	2.7	18	12	7.9	4.9	4.4	1.9	1.9	1.1	1.4
20	2.7	4.2	2.7	11	10	7.9	6.0	3.8	1.8	1.8	1.2	.98
21	2.7	2.7	2.6	8.0	8.0	7.0	5.3	3.7	1.8	2.3	1.2	.92
22	2.7	2.4	7.0	6.2	6.5	14	4.9	3.5	1.9	2.4	1.1	.86
23	2.9	2.4	10	5.7	6.0	11	5.1	3.5	1.7	2.9	1.4	.72
24	2.9	2.3	7.0	5.4	5.2	7.6	5.1	3.2	1.7	2.6	1.6	.66
25	3.5	2.2	4.2	5.0	4.8	6.2	4.9	3.2	1.7	2.1	1.2	.66
26	3.4	2.1	3.5	5.4	4.5	6.0	11	3.4	1.8	2.0	1.0	.66
27	3.4	2.1	3.9	6.0	4.4	6.2	11	3.5	1.8	1.9	.98	.72
28	3.4	2.1	4.2	5.4	4.2	5.5	8.2	3.0	1.8	1.8	.92	.92
29	2.7	2.1	4.0	4.9	-----	14	7.3	2.9	1.5	1.7	.86	.80
30	2.2	2.1	18	5.4	-----	10	6.0	3.0	1.5	2.1	.80	.80
31	2.3	-----	55	5.0	-----	12	-----	3.0	-----	1.9	.72	-----
TOTAL	81.7	74.7	201.2	199.2	261.9	202.3	217.5	199.0	65.6	88.2	43.58	24.15
MEAN	2.64	2.49	6.49	6.43	9.35	6.53	7.25	5.00	2.19	2.83	1.41	.81
MAX	3.5	4.2	55	18	32	14	23	19	3.8	14	3.8	1.4
MIN	1.8	2.1	2.1	3.2	4.2	4.0	4.9	2.9	1.5	1.4	.72	.55
CFSM	.31	.29	.76	.75	1.10	.77	.85	.59	.26	.33	.17	.095
IN.	.36	.33	.88	.87	1.14	.88	.95	.68	.29	.38	.19	.11

CAL YR 1969 TOTAL 1,907.60 MEAN 5.23 MAX 92 MIN 1.0 CFSM .61 IN 8.32
WAT YR 1970 TOTAL 1,615.03 MEAN 4.42 MAX 55 MIN .55 CFSM .52 IN 7.04

PEAK DISCHARGE (BASE, 150 CFS).--NO PEAK ABOVE BASE.

NOTE.--NO GAGE-HEIGHT RECDRD DEC. 10-29, JAN. 9 TO FEB. 26.

70-113

JAMES RIVER BASIN

02039000 Buffalo Creek near Hampden Sydney, Va.

LOCATION.--Lat 37°15'25", long 78°29'10", Prince Edward County, on left bank 100 ft above bridge on State Highway 658, 0.8 mile upstream from Locket Creek, 2.4 miles northwest of Hampden Sydney, and 5.2 miles southwest of Farmville.

DRAINAGE AREA.--69.7 sq mi (revised).

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 339.19 ft above mean sea level (levels by Virginia Department of Highways). Prior to Aug. 19, 1953, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--24 years, 58.1 cfs (11.32 inches per year).

EXTREMES.--Current year: Maximum discharge, 360 cfs Apr. 3 (gage height, 5.21 ft); minimum daily, 3.9 cfs Sept. 28.

Period of record: Maximum discharge, 6,440 cfs Aug. 18, 1955 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs; minimum, 3.4 cfs Oct. 4, 1968; minimum gage height, 0.83 ft July 27-30, 1966.

Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 1303: 1948-50(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	14	93	34	31	83	43	14	5.9	14	5.9
2	21	14	14	62	45	30	243	37	17	10	13	5.9
3	21	14	14	48	186	30	239	34	14	10	11	6.2
4	17	14	14	39	134	31	118	76	13	7.9	10	7.4
5	13	13	14	34	75	34	80	104	14	7.1	8.8	11
6	13	13	15	32	59	32	64	73	12	7.1	8.5	9.4
7	13	13	16	34	50	31	58	56	12	6.5	8.8	7.6
8	16	13	28	34	44	29	49	46	14	6.2	8.5	6.8
9	17	14	24	32	50	28	44	38	14	8.2	8.8	5.9
10	16	14	38	31	112	28	41	33	12	30	22	5.9
11	15	13	60	30	79	27	37	30	12	22	20	8.5
12	14	14	42	31	50	30	35	28	14	16	15	7.6
13	14	14	34	33	48	34	35	28	12	13	13	7.1
14	14	14	28	36	42	32	67	27	11	14	13	6.8
15	13	13	25	36	39	29	55	24	11	12	11	6.8
16	13	14	23	34	42	28	46	22	11	11	10	4.2
17	12	14	22	35	91	27	42	28	11	9.4	9.7	5.9
18	12	14	21	41	104	47	38	26	9.7	7.9	9.1	5.6
19	12	16	21	17	114	63	34	23	11	7.1	9.1	8.8
20	12	20	20	34	78	59	48	21	10	7.4	22	7.9
21	12	18	18	34	59	61	42	20	11	19	13	7.4
22	12	17	18	32	50	85	35	18	10	25	11	7.1
23	12	17	40	32	45	100	34	17	8.8	24	11	6.2
24	12	16	33	32	40	72	34	17	8.2	23	11	5.9
25	11	16	29	32	38	59	32	16	7.9	17	9.7	5.2
26	12	16	28	35	35	52	54	16	9.7	15	8.5	4.6
27	13	15	35	28	34	48	94	17	9.1	13	7.9	4.2
28	13	14	48	26	32	44	72	15	7.6	12	7.4	3.9
29	12	15	37	28	-----	61	61	15	7.1	11	6.8	6.5
30	12	14	36	48	-----	69	50	14	6.8	40	6.2	5.6
31	13	-----	97	39	-----	79	-----	14	-----	17	5.9	-----
TOTAL	424	439	906	1,152	1,818	1,410	1,964	976	334.9	434.7	344.0	200.0
MEAN	13.7	14.6	29.2	37.2	64.9	45.5	65.3	31.5	11.2	14.0	11.1	6.67
MAX	21	20	97	93	186	100	243	104	17	40	22	11
MIN	11	13	14	26	32	27	32	14	4.8	5.9	5.9	3.9
CFSM	.20	.21	.42	.53	.93	.65	.94	.45	.16	.20	.18	.096
IN.	.23	.23	.48	.61	.97	.75	1.05	.52	.18	.23	.18	.11

CAL YR 1969 TOTAL 12,385.8 MEAN 33.9 MAX 500 MIN 7.4 CFSM .49 IN 6.61
MAY YR 1970 TOTAL 10,402.6 MEAN 28.5 MAX 243 MIN 3.9 CFSM .41 IN 5.55

PEAK DISCHARGE (BASE, 500 CFS).--NO PEAK ABOVE BASE.

70-114

JAMES RIVER BASIN

02039500 Appomattox River at Farmville, Va.

LOCATION.--Lat 37°18'25", long 78°23'20", Cumberland County, on left bank 4 ft downstream from bridge on State Highway 45 at north town limits of Farmville, and 1.1 miles downstream from Buffalo Creek.

DRAINAGE AREA.--303 sq mi (revised).

PERIOD OF RECORD.--March 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 281.93 ft above mean sea level. Prior to Nov. 29, 1928, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--44 years, 263 cfs (11.79 inches per year).

EXTREMES.--Current year: Maximum discharge, 997 cfs Apr. 3 (gage height, 9.35 ft); minimum, 14 cfs Sept. 27 (gage height, 3.14 ft).

Period of record: Maximum discharge, 21,000 cfs Aug. 15, 1940 (gage height, 23.60 ft), from rating curve extended above 12,000 cfs; minimum, 1.8 cfs Sept. 25, 1941.

REMARKS.--Records good. Diurnal fluctuation at low flow caused by Prince Edward Mill, 0.2 mile upstream.

REVISIONS (WATER YEARS).--WSP 972: 1927-37, 1938(M). WSP 1303: 1927(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	47	55	711	139	118	366	155	47	12	127	17
2	53	53	54	329	165	116	652	137	45	42	78	17
3	85	55	55	227	572	114	873	128	46	96	55	16
4	73	55	53	177	661	115	499	217	40	26	42	17
5	56	54	49	148	349	124	311	494	38	24	33	29
6	48	53	56	161	259	121	246	307	38	21	34	57
7	44	50	82	151	221	112	219	209	42	17	38	29
8	49	50	119	124	200	108	193	169	58	14	40	22
9	66	53	134	155	217	104	173	147	44	21	41	19
10	62	55	134	174	528	100	161	129	36	439	91	24
11	54	56	244	129	397	98	148	115	35	201	163	25
12	48	56	195	122	250	102	138	110	33	95	107	20
13	45	57	134	126	193	127	135	103	34	62	68	19
14	43	59	113	120	165	127	196	97	27	58	93	18
15	42	57	102	114	151	113	208	89	24	65	44	17
16	38	55	91	111	164	104	168	86	24	54	39	16
17	37	51	82	108	352	99	148	100	26	42	40	15
18	33	53	74	171	417	143	141	129	23	32	35	15
19	35	57	91	263	439	255	131	163	21	26	31	18
20	33	73	79	212	331	228	145	87	19	33	35	28
21	36	87	76	125	234	229	158	79	18	80	39	26
22	35	72	173	115	193	272	136	73	17	132	29	22
23	33	63	210	110	171	435	124	68	16	137	36	19
24	32	61	155	135	155	318	124	64	15	138	44	18
25	32	59	118	126	145	233	121	59	16	88	42	17
26	36	57	65	144	134	194	179	57	31	65	33	16
27	39	56	124	146	125	178	342	59	24	90	27	15
28	43	56	156	131	121	160	284	58	18	43	23	32
29	44	56	140	157	-----	251	227	51	16	38	21	84
30	42	56	165	202	-----	377	187	47	13	255	20	83
31	43	-----	555	167	-----	351	-----	47	-----	167	18	-----
TOTAL	1,400	1,722	3,933	5,391	7,448	5,526	7,131	3,733	884	2,573	1,526	770
MEAN	45.2	57.4	127	174	266	178	238	120	29.5	83.0	49.2	25.7
MAX	85	87	555	711	661	435	873	454	58	439	163	84
MIN	32	47	49	108	121	98	121	47	13	12	18	15
CFSM	.13	.19	.42	.57	.88	.59	.79	.40	.097	.27	.16	.085
IN.	.17	.21	.48	.66	.91	.68	.88	.46	.11	.32	.19	.09

CAL YR 1969 TOTAL 48,155 MEAN 132 MAX 1,950 MIN 17 CFSM .44 IN 5.91
WAT YR 1970 TOTAL 42,037 MEAN 115 MAX 873 MIN 12 CFSM .38 IN 5.16

PEAK DISCHARGE (BASE, 3,500 CFS).--NO PEAK ABOVE BASE.

70-115

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

JAMES RIVER BASIN

02040000 Appomattox River at Mattoax, Va.

LOCATION.--Lat 37°25'17", long 77°51'33", Amelia County, on right bank 75 ft upstream from Southern Railway bridge at Mattoax, 0.3 mile upstream from Skinquarter Creek, and 3.7 miles upstream from Flat Creek.

DRAINAGE AREA.--726 sq mi (revised).

PERIOD OF RECORD.--August 1900 to December 1905, March 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level. August 1900 to December 1905, nonrecording gage at same site, different datum. March 1926 to October 1936, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--49 years, 671 cfs (12.55 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,660 cfs Apr. 4 (gage height, 14.91 ft); minimum, 28 cfs Sept. 30 (gage height, 5.09 ft).

Period of record: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 782: Drainage area. WSP 892: 1938. WSP 972: 1928, 1932, 1934-38. WSP 1303: 1901(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	101	125	2,290	574	390	1,370	726	143	56	631	56
2	92	103	125	2,250	458	380	1,660	605	140	36	320	48
3	116	113	125	1,150	1,220	378	2,460	528	136	61	210	44
4	194	117	123	759	2,290	378	2,630	579	129	94	150	46
5	202	115	122	574	1,820	415	2,090	1,280	124	129	115	47
6	140	114	119	483	980	440	1,070	1,560	116	78	105	58
7	108	109	125	509	782	415	866	1,010	116	61	110	66
8	107	108	202	450	670	390	782	726	109	56	120	81
9	176	116	285	400	644	365	698	592	110	54	150	62
10	152	117	348	300	1,350	352	618	502	119	92	220	52
11	128	115	678	350	1,950	330	566	440	108	468	280	46
12	115	120	870	420	1,280	330	528	390	104	630	360	43
13	101	121	800	450	838	352	490	352	98	270	260	60
14	95	120	372	445	670	390	631	330	92	162	190	49
15	90	117	285	420	566	390	980	300	90	139	150	44
16	89	116	250	365	553	352	922	280	85	119	130	41
17	86	115	218	346	894	330	698	280	84	106	130	41
18	82	113	194	496	1,690	365	592	320	82	90	120	37
19	80	115	181	903	1,850	618	540	340	78	72	100	37
20	79	137	194	1,100	1,560	980	528	320	71	65	90	35
21	60	152	180	1,000	950	622	698	261	67	76	115	35
22	79	170	459	740	782	944	726	242	65	146	80	41
23	79	170	1,120	680	657	1,310	579	219	61	232	100	47
24	78	143	989	700	592	1,400	540	202	59	579	130	41
25	79	135	561	800	540	1,010	502	186	68	618	110	36
26	79	126	408	698	490	782	553	177	88	320	95	34
27	81	126	384	814	430	657	1,460	202	76	200	80	32
28	83	126	372	656	410	592	1,690	198	86	146	70	29
29	88	125	458	420	-----	702	1,240	175	81	119	65	32
30	98	125	548	420	-----	1,250	922	158	66	132	60	30
31	100	-----	1,150	600	-----	1,370	-----	150	-----	776	59	-----
TOTAL	3,238	3,707	17,170	22,268	27,490	19,279	29,629	13,630	2,851	6,220	4,904	1,350
MEAN	104	124	393	718	932	622	988	440	95.0	201	158	45.0
MAX	202	170	1,150	2,290	2,290	1,400	2,630	1,560	143	776	631	81
MIN	78	101	119	360	410	330	490	150	59	54	58	24
CFSM	.14	.17	.54	.99	1.35	.86	1.36	.61	.13	.28	.22	.062
IN.	.17	.19	.62	1.14	1.41	.99	1.52	.70	.15	.32	.25	.07

CAL YR 1969 TOTAL 152,425 MEAN 416 MAX 3,770 MIN 56 CFSM .58 IN 7.81
WAT YR 1970 TOTAL 146,736 MEAN 402 MAX 2,630 MIN 29 CFSM .55 IN 7.52

PEAK DISCHARGE (BASE, 4,000 CFS).--NO PEAK ABOVE BASE.

70-116

JAMES RIVER BASIN

02041000 Deep Creek near Mannboro, Va.

LOCATION.--Lat 37°16'59", long 77°52'22", Amelia County, on left bank 300 ft upstream from bridge on State Highway 153, 0.9 mile upstream from Sweathouse Creek, 3.4 miles northwest of Mannboro, and 7.5 miles southeast of Amelia.

DRAINAGE AREA.--158 sq mi (revised).

PERIOD OF RECORD.--September 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level. Prior to Sept. 2, 1949, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--24 years, 125 cfs (10.74 inches per year).

EXTREMES.--Current year: Maximum discharge, 534 cfs Apr. 3 (gage height, 6.59 ft); minimum, 0.30 cfs Sept. 30. Period of record: Maximum discharge, 7,140 cfs Sept. 25, 1947 (gage height, 13.1 ft, from floodmarks), from rating curve extended above 3,800 cfs; minimum, 0.03 cfs Oct. 4, 5, 1968; minimum gage height, 0.29 ft Aug. 9-12, 1957. Flood in August 1940 reached a stage of 14.8 ft (discharge, 10,000 cfs, from rating curve extended above 3,800 cfs), from information by local resident.

REMARKS.--Records good except those for period of no gage-height record, which are fair.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

REVISIONS (WATER YEARS).--WSP 1203: 1948 calendar year figures only.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	26	37	347	105	85	310	131	26	16	38	8.7
2	32	29	35	321	88	85	378	103	25	15	42	7.9
3	125	32	34	206	172	82	500	94	24	14	38	7.5
4	120	34	34	145	310	85	469	114	24	21	30	7.7
5	77	36	33	106	280	103	280	200	22	36	23	10
6	77	33	33	100	162	106	190	190	24	38	22	11
7	38	30	36	90	131	94	171	124	27	35	24	9.3
8	29	29	84	88	117	82	162	94	25	27	23	8.5
9	63	34	114	82	114	76	142	84	24	21	23	7.5
10	50	40	122	78	211	72	128	77	22	46	28	6.9
11	40	42	292	85	321	68	114	69	20	68	51	6.7
12	37	40	398	95	244	66	106	63	20	82	55	6.5
13	35	43	210	110	155	76	103	60	19	44	42	5.0
14	32	44	117	120	124	82	128	54	17	29	32	6.5
15	31	40	91	100	110	76	166	49	16	24	26	7.3
16	29	36	76	70	106	66	150	46	17	21	24	6.3
17	28	32	64	60	209	60	120	51	16	19	20	5.9
18	27	31	55	80	372	78	110	69	16	16	19	5.0
19	26	31	50	110	410	198	100	67	15	15	18	5.0
20	26	67	46	140	361	229	97	58	14	14	40	3.8
21	27	85	43	135	229	200	103	50	14	15	92	3.8
22	27	72	159	125	160	206	94	44	14	17	38	4.4
23	27	56	392	90	131	250	87	39	20	32	20	4.2
24	28	48	373	115	117	238	89	36	19	123	17	4.0
25	29	42	170	130	110	160	87	33	16	263	13	3.2
26	30	40	130	140	103	124	138	33	19	91	10	2.7
27	31	38	125	120	97	114	367	32	25	45	9.3	2.0
28	30	58	140	100	91	100	446	31	23	34	8.7	1.4
29	29	37	255	85	-----	122	284	31	22	27	8.1	.85
30	28	36	310	85	-----	208	180	28	18	32	8.1	.45
31	28	-----	310	95	-----	250	-----	27	-----	34	8.3	-----
TOTAL	1,261	1,243	4,368	3,753	5,140	3,841	5,799	2,181	603	1,314	850.5	170.00
MEAN	40.7	41.4	141	121	184	124	193	70.4	20.1	42.4	27.4	5.67
MAX	125	85	398	347	410	250	500	200	27	263	92	11
MIN	25	28	33	60	88	60	87	27	14	14	8.1	.45
CFSM	.26	.26	.89	.77	1.16	.78	1.22	.45	.13	.27	.17	.036
IN.	.30	.29	1.03	.88	1.21	.90	1.37	.51	.14	.31	.20	.04

CAL YR 1969 TOTAL 40,083 MEAN 110 MAX 1,530 MIN 14 CFSM .70 IN 9.44
WAT YR 1970 TOTAL 30,523.50 MEAN 83.6 MAX 500 MIN .45 CFSM .53 IN 7.19

PEAK DISCHARGE (BASE, 1,200 CFS).--NO PEAK ABOVE BASE.

NOTE.--NO GAGE-HEIGHT RECORD OCT. 7 TO NOV. 5.

70-117

JAMES RIVER BASIN

02041650 Appomattox River at Matoaca, Va.

LOCATION.--Lat 37°13'30", long 77°28'34", Chesterfield County, on left bank at upstream side of bridge on State Highway 600, 0.2 mile south of Matoaca, 2.0 miles upstream from Roheic Creek, 2.6 miles downstream from Wallace Creek, 3.5 miles west of Petersburg, and 4.5 miles southwest of Colonial Heights.

DRAINAGE AREA.--1,344 sq mi.

PERIOD OF RECORD.--October 1969 to September 1970.

GAGE.--Water-stage recorder. Altitude of gage is 85 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 4,710 cfs Apr. 4 (gage height, 7.04 ft); minimum, 106 cfs June 15, 16 (gage height, 1.69 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Lake Chesdin (capacity, 36,500 acre-ft), 2.8 miles upstream, from which an average of 12.4 cfs is diverted for industrial and municipal use. Records do not include flow of Upper Canal of Virginia Electric and Power Co. which diverts around station.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	198	236	2,380	830	722	2,680	1,580	223	126	905	127
2	200	205	212	3,260	830	690	3,400	1,200	199	129	735	127
3	200	198	212	3,070	1,160	652	4,190	1,020	191	127	440	127
4	200	198	222	1,780	2,180	690	4,710	1,020	191	131	331	135
5	200	198	202	1,160	3,130	768	4,360	1,360	180	129	223	131
6	200	198	195	925	2,670	828	2,930	2,100	360	127	180	129
7	200	198	205	860	1,580	774	1,880	2,020	319	127	161	129
8	200	200	242	770	1,200	742	1,450	1,490	255	127	155	127
9	200	200	340	590	1,040	664	1,320	1,090	202	127	135	129
10	200	200	591	428	1,460	622	1,160	870	188	140	161	131
11	200	198	1,280	381	2,350	582	978	748	171	136	180	129
12	200	200	1,630	454	2,780	577	870	658	159	342	207	127
13	200	198	1,540	590	2,080	616	828	588	155	528	308	127
14	200	200	1,040	612	1,360	658	978	528	138	335	308	129
15	200	198	710	570	1,040	640	1,280	440	124	255	255	129
16	200	198	550	515	890	610	1,490	410	106	207	193	129
17	200	198	446	482	1,280	538	1,360	475	107	166	166	129
18	200	198	385	600	2,030	666	1,130	522	107	144	144	129
19	200	202	381	800	3,200	1,050	940	500	108	133	144	129
20	200	205	337	1,000	3,260	1,490	940	511	107	129	191	129
21	200	200	312	925	2,580	1,840	940	440	110	129	239	129
22	200	200	547	600	1,880	1,840	978	378	108	127	297	129
23	200	200	1,400	470	1,400	2,120	1,050	355	114	175	339	129
24	200	200	1,930	440	1,160	2,340	1,020	315	133	758	269	129
25	200	200	2,280	520	1,050	2,110	870	262	131	1,160	185	131
26	200	202	2,180	686	940	1,660	1,070	286	129	1,130	157	131
27	200	200	1,980	770	828	1,350	2,300	308	136	640	140	133
28	200	202	1,680	758	780	1,090	3,260	262	127	364	133	131
29	200	205	1,360	740	-----	1,240	3,070	242	126	279	133	129
30	200	210	1,240	752	-----	1,740	2,180	235	127	279	129	129
31	198	-----	1,540	710	-----	2,390	-----	232	-----	286	129	-----
TOTAL	6,198	6,007	27,395	28,604	46,968	34,299	55,612	22,445	4,831	8,992	7,692	3,878
MEAN	200	200	884	923	1,677	1,106	1,854	724	161	290	248	129
MAX	200	210	2,280	3,260	3,260	2,390	4,710	2,100	360	1,160	905	135
MIN	198	198	195	381	780	538	828	232	106	126	129	127

WAT YR 1970 TOTAL 252,921 MEAN 693 MAX 4,710 MIN 106

PEAK DISCHARGE (BASE, 5,000 CFS).--NO PEAK ABOVE BASE.

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1-30.

70-118

JAMES RIVER BASIN

02042500 Chickahominy River near Providence Forge, Va.

LOCATION.--Lat 37°26'10", long 77°03'40", New Kent County, on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, and 1.7 miles downstream from Schiminoe Creek.

DRAINAGE AREA.--248 sq mi (revised).

PERIOD OF RECORD.--January 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6.07 ft above mean sea level.

AVERAGE DISCHARGE.--28 years, 250 cfs (23.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 788 cfs Apr. 4 (gage height, 7.92 ft); minimum, 2.7 cfs Sept. 27 (gage height, 1.85 ft).

Period of record: Maximum discharge, 7,710 cfs Aug. 15, 1955 (gage height, 11.67 ft); minimum daily, 1.6 cfs Oct. 10, 1969; minimum gage height, 1.53 ft Sept. 13, 1965.

REMARKS.--Records fair.

REVISIONS (WATER YEARS).--WSP 1553: 1956.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	43	84	460	249	244	498	343	107	27	24	9.4
2	90	53	80	420	240	229	571	346	71	23	21	9.3
3	110	72	78	370	259	214	704	332	50	37	19	10
4	140	75	75	330	293	204	771	321	41	43	17	9.1
5	190	83	73	310	314	219	774	333	37	62	15	9.1
6	200	81	71	340	340	225	680	302	41	.86	13	8.2
7	180	73	72	400	347	234	675	268	45	111	12	7.0
8	150	67	104	460	362	238	641	235	42	120	11	6.5
9	130	79	127	450	377	235	578	212	38	113	10	6.7
10	115	86	160	400	407	233	491	214	39	102	9.0	5.9
11	100	91	180	340	406	225	405	217	42	72	10	5.8
12	90	99	215	237	391	214	337	196	38	52	10	7.3
13	82	107	260	235	388	218	291	159	32	61	11	7.5
14	76	109	290	227	391	209	275	124	28	90	11	6.7
15	74	109	300	224	444	202	276	101	26	154	9.5	5.7
16	76	101	290	229	478	188	274	87	24	223	9.0	5.2
17	75	96	270	230	487	173	270	89	23	190	8.5	4.6
18	65	90	220	266	466	185	267	115	22	83	7.9	4.1
19	56	85	190	293	441	238	285	108	21	55	8.1	4.3
20	52	119	170	275	420	260	333	106	20	36	10	4.3
21	47	134	170	280	410	318	365	96	20	28	14	4.1
22	44	153	190	270	421	344	348	87	25	20	30	3.9
23	42	164	220	260	426	394	316	81	27	31	47	3.8
24	39	165	260	239	412	429	294	72	25	58	67	3.7
25	37	175	300	229	389	454	273	61	22	92	86	3.4
26	37	169	350	254	352	470	267	55	27	118	65	3.1
27	42	139	400	266	302	510	319	56	31	126	31	3.0
28	46	116	450	265	265	501	332	58	27	137	21	4.5
29	47	99	480	269	-----	494	359	65	26	119	15	5.9
30	45	89	490	264	-----	483	163	84	29	58	12	4.4
31	44	-----	490	255	-----	466	-----	111	-----	31	10	-----
TOTAL	2,601	3,121	7,109	9,346	10,477	9,250	12,634	5,039	1,046	2,567	844.8	176.1
MEAN	83.9	104	229	301	374	298	421	163	34.9	82.8	20.6	5.87
MAX	200	175	490	460	487	510	774	348	107	223	86	10
MIN	37	43	71	224	240	173	267	55	20	23	7.9	3.0
CFSM	.36	.42	.92	1.21	1.51	1.20	1.70	.66	.14	.33	.084	.024
IN.	.39	.47	1.07	1.40	1.57	1.79	1.90	.76	.16	.39	.10	.03

CAL YR 1969 TOTAL 97,053.0 MEAN 266 MAX 4,660 MIN 22 CFSM 1.07 IN 14.56
 MAY YR 1970 TOTAL 64,010.9 MEAN 175 MAX 774 MIN 3.0 CFSM .71 IN 9.60

70-119

DISMAL SWAMP BASIN

02043000 Lake Drummond in Dismal Swamp, Va.

LOCATION.--Lat 36°35'40", long 76°26'20", on left bank in outlet canal, in Chesapeake, 200 ft upstream from dam and gates, 0.5 mile downstream from Lake Drummond, 2.5 miles east of Nansemond County line, 3.1 miles north of North Carolina State line, and 20 miles southwest of Norfolk.

PERIOD OF RECORD.--May 1926 to current year.

GAGE.--Nonrecording gage. Datum of gage is 12.16 ft above mean sea level.

EXTREMES.--Current year: Maximum gage height, 5.37 ft Feb. 1; minimum, 2.90 ft Sept. 27.
Period of record: Maximum gage height, 6.68 ft Sept. 17, 1960; minimum, -0.67 ft Nov. 3, 1952.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.14	5.04	5.16	5.11	5.37	5.06	5.09	5.21	5.02	4.05	4.38	3.69
2	5.16	5.02	4.97	5.05	5.30	5.03	5.11	5.22	4.97	4.03	4.35	3.66
3	5.00	4.88	5.00	5.00	5.27	5.02	5.18	5.20	4.98	4.07	4.35	3.57
4	4.95	4.90	4.95	5.04	5.22	5.08	5.15	5.20	4.93	4.00	4.36	3.54
5	4.95	5.01	4.91	5.16	5.19	5.08	5.13	5.20	4.89	4.09	4.36	3.62
6	4.98	5.03	4.90	5.23	5.22	5.07	5.14	5.17	4.89	4.03	4.30	3.56
7	5.00	5.01	4.92	5.13	5.19	5.16	5.18	5.17	4.88	3.98	4.27	3.52
8	4.99	5.04	4.93	5.17	5.13	5.20	5.18	5.15	4.86	3.93	4.25	3.52
9	4.96	5.08	4.95	5.11	5.05	5.24	5.10	5.14	4.83	3.88	4.20	3.45
10	4.89	5.10	4.97	5.15	4.83	5.24	5.05	5.07	4.72	3.83	4.23	3.38
11	4.96	5.10	5.11	5.15	4.78	5.27	5.05	5.10	4.64	3.90	4.28	3.36
12	4.98	5.12	5.20	5.16	4.94	5.30	5.10	5.05	4.64	3.91	4.26	3.33
13	4.98	5.08	5.25	5.16	4.99	5.29	5.08	5.07	4.62	3.86	4.21	3.32
14	5.01	5.08	5.21	5.15	5.18	5.18	5.22	5.14	4.58	3.84	4.18	3.25
15	5.01	5.08	5.25	5.18	5.20	5.07	5.17	5.16	4.47	3.82	4.18	3.22
16	5.00	5.00	5.26	5.26	5.18	5.08	5.11	5.19	4.45	3.79	4.15	3.21
17	4.97	5.00	5.22	5.22	5.05	5.06	5.09	5.20	4.36	3.77	4.08	3.18
18	5.00	5.00	5.22	5.21	5.06	5.01	5.11	5.23	4.35	3.77	4.02	3.14
19	5.00	5.01	5.18	5.18	5.16	5.00	5.09	5.24	4.25	3.71	4.01	3.09
20	5.00	5.08	5.16	5.15	5.16	5.01	5.07	5.30	4.25	3.65	4.12	3.07
21	5.01	5.08	5.14	5.18	5.16	5.03	5.04	5.25	4.14	3.60	4.04	3.04
22	5.04	5.04	5.18	5.17	5.17	5.09	5.02	5.24	4.23	3.75	3.98	3.01
23	5.03	5.11	5.19	5.06	5.14	5.14	5.09	5.23	4.21	3.92	4.00	3.00
24	5.02	5.18	5.19	4.99	5.16	5.14	5.14	5.20	4.18	4.11	3.92	2.99
25	5.02	5.22	5.18	4.96	5.15	5.10	5.20	5.21	4.12	4.16	3.86	2.97
26	5.02	5.24	5.34	4.96	4.97	5.13	5.22	5.18	4.17	4.19	3.84	2.94
27	5.10	5.22	5.22	5.01	5.02	5.26	5.14	5.18	4.26	4.24	3.83	2.90
28	5.08	5.20	5.09	5.06	5.08	5.26	5.17	5.17	4.21	4.24	3.73	2.98
29	5.06	5.20	5.10	5.08	-----	5.21	5.20	5.15	4.17	4.27	3.77	2.98
30	5.00	5.19	5.12	5.24	-----	5.23	5.21	5.12	4.13	4.30	3.70	2.93
31	5.01	-----	5.15	5.34	-----	5.15	-----	5.05	-----	4.35	3.69	-----

70-120

DISMAL SWAMP BASIN

02043500 Cypress Swamp at Cypress Chapel, Va.

LOCATION.--Lat 36°37'30", long 76°36'10", Nansemond County, on right bank 10 ft upstream from bridge on State Highway 32, 0.5 mile downstream from Dragon Swamp, 0.8 mile northwest of Cypress Chapel, and 6.5 miles south of Suffolk.

DRAINAGE AREA.--21 sq mi, approximately.

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 28.65 ft above mean sea level.

AVERAGE DISCHARGE.--17 years, 28.3 cfs (16.71 inches per year).

EXTREMES.--Current year: Maximum discharge, 517 cfs Feb. 3 (gage height, 5.56 ft); no flow at times during year. Period of record: Maximum discharge, 1,330 cfs Aug. 11, 1967 (gage height, 6.85 ft); no flow at times each year.

REMARKS.--Records fair.

COOPERATION.--Records computed and furnished by the Virginia Department of Conservation and Economic Development, Division of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	3.5	5.8	45	54	35	171	28		0	2.1	
2	16	26	5.3	37	47	30	147	17		0	2.1	
3	341	61	4.9	31	342	28	181	11		0	.16	
4	210	47	4.6	28	506	24	120	36		0	0	
5	95	28	3.8	25	235	24	75	151		5.3	0	
6	56	20	3.2	27	145	23	54	115		16	0	
7	37	17	4.2	72	115	18	55	59		1.4	0	
8	28	14	25	77	92	17	52	30		0	0	
9	29	18	36	54	79	15	37	17		0	0	
10	23	22	41	35	98	13	29	9.7		0	0	
11	17	21	114	21	106	12	22	4.9		36	0	
12	14	20	101	22	79	14	18	2.3		30	0	
13	12	25	63	30	62	21	15	1.1		2.1	0	
14	11	28	47	29	50	18	74	.32		.16	0	
15	11	24	42	26	44	13	108	0		0	0	
16	8.5	20	34	23	41	10	62	0		0	0	
17	6.8	16	28	23	131	8.4	41	.12		0	0	
18	4.9	13	24	46	235	12	30	1.6		0	0	
19	3.5	13	23	56	138	45	23	1.1		0	0	
20	2.6	15	21	38	97	40	22	.16		0	0	
21	2.3	17	19	29	68	59	21	0		0	0	
22	1.5	16	40	28	55	75	15	0		0	0	
23	1.1	14	66	26	48	94	13	0		7.0	0	
24	.88	12	49	24	40	64	20	0		32	0	
25	.60	10	35	23	37	42	16	0		16	0	
26	.60	9.1	123	29	57	32	14	0		3.0	0	
27	3.8	7.9	188	28	55	61	78	0		.40	0	
28	11	7.4	96	20	44	59	85	0		9.0	0	
29	10	6.8	68	18	-----	41	74	0		4.5	0	
30	6.8	6.2	56	56	-----	35	52	0		2.4	0	
31	4.9	-----	52	77	-----	103	-----	0		.32	0	
TOTAL	969.76	557.9	1,422.8	1,103	3,100	1,085.4	1,724	485.30	0	168.58	4.36	0
MEAN	31.3	18.6	45.9	35.6	111	35.0	57.5	15.7	0	5.44	.14	0
MAX	341	61	188	77	506	103	181	151	0	38	2.1	0
MIN	.18	3.5	3.2	18	37	8.4	13	0	0	0	0	0
CFSM	1.36	.81	2.00	1.55	4.83	1.52	2.50	.68	0	.24	.006	0
IN.	1.57	.90	2.30	1.78	5.01	1.76	2.79	.78	0	.27	.007	0

CAL YR 1969 TOTAL 11,098.07 MEAN 30.4 MAX 341 MIN 0 CFSM 1.32 IN 17.95
WAT YR 1970 TOTAL 10,621.10 MEAN 29.1 MAX 506 MIN 0 CFSM 1.27 IN 17.18

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-3	1000	5.25	421	2-3	2330	5.56	517
12-27	0400	4.58	222	2-18	0700	4.41	256

70-121

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR